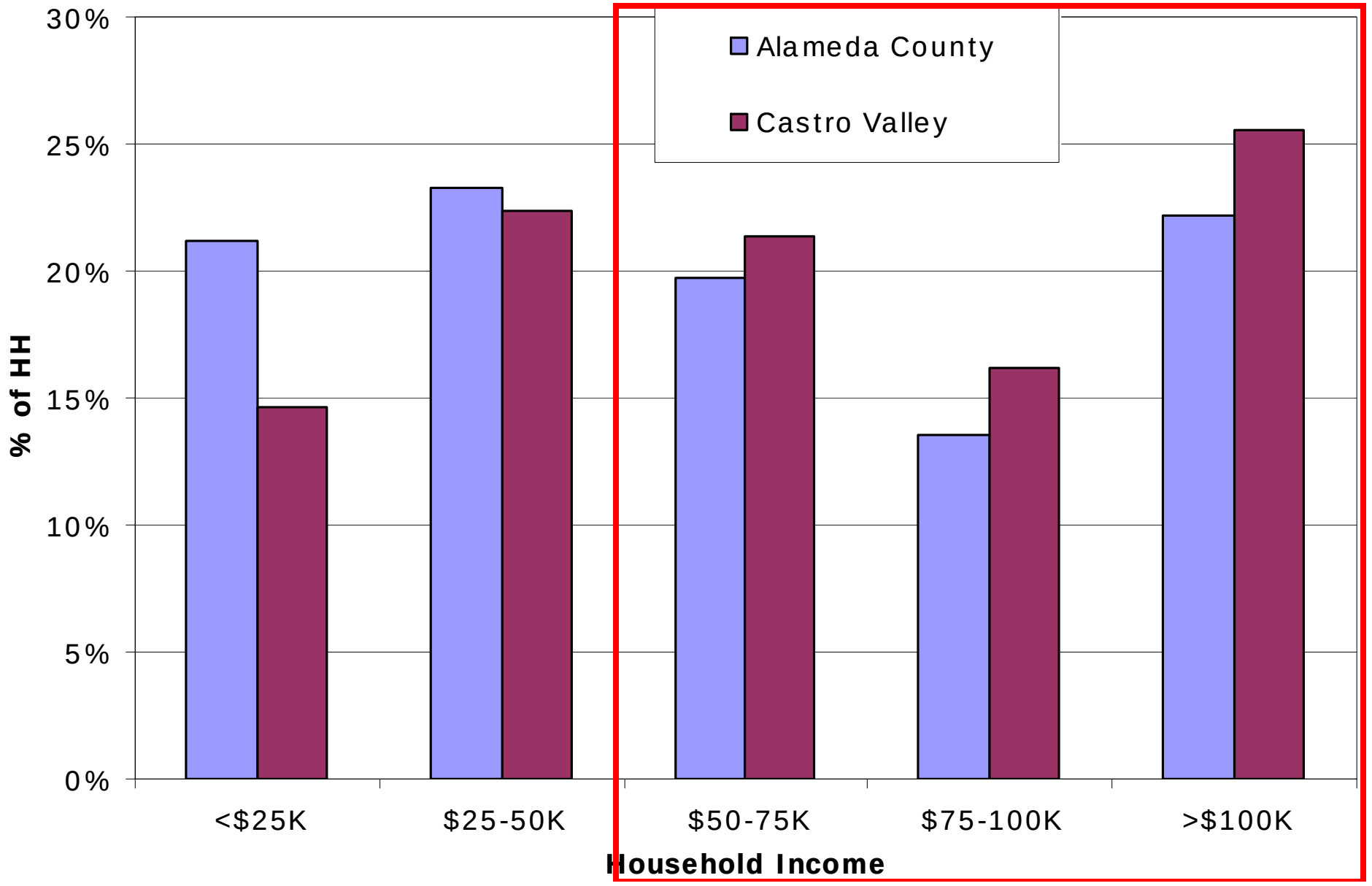
Understanding The Root Causes of Poor Health In Alameda County

The Challenge of Achieving Equity

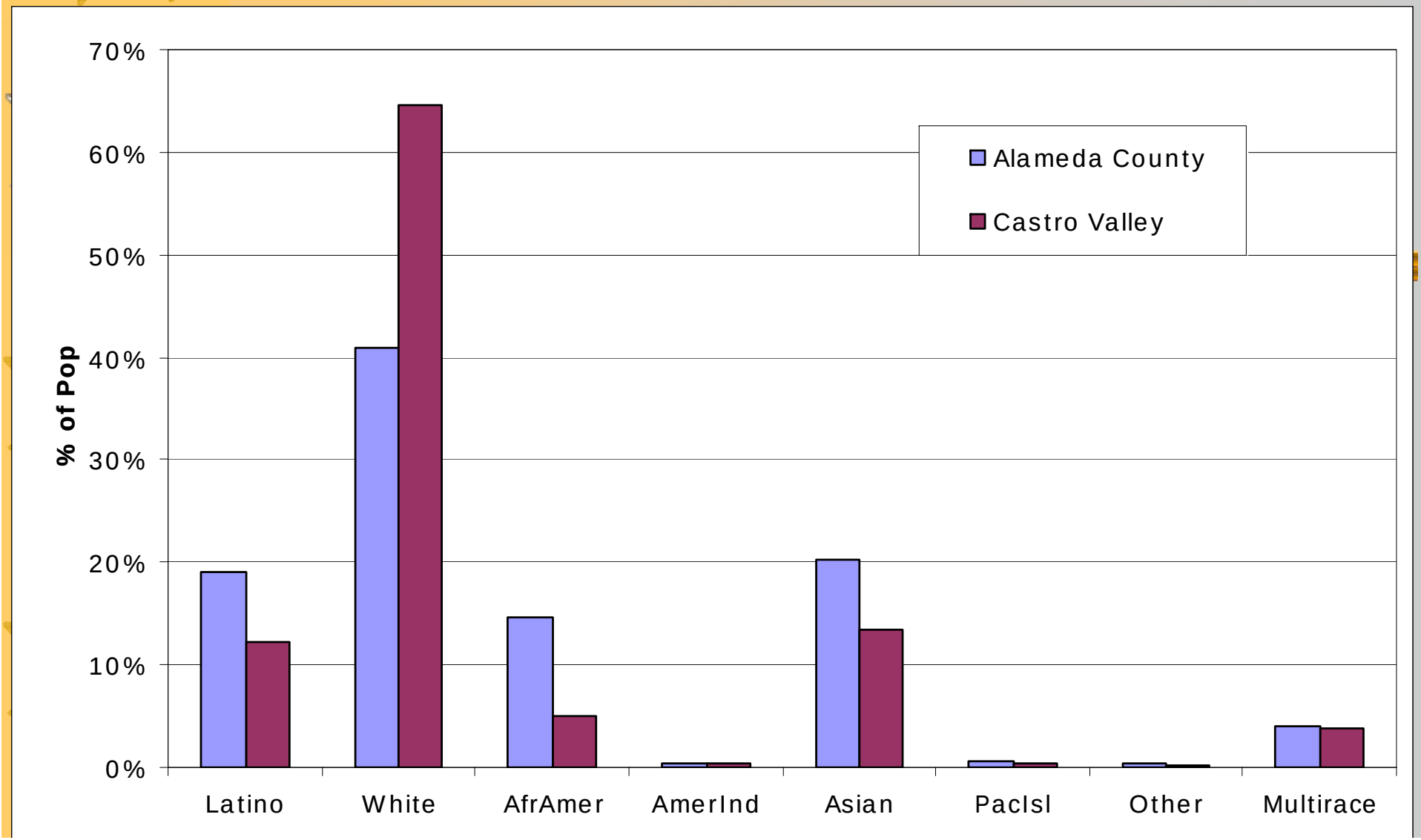
Anthony Iton, M.D., J.D., MPH
Alameda County Health Officer

Castro Valley Community Meeting
June 7, 2007

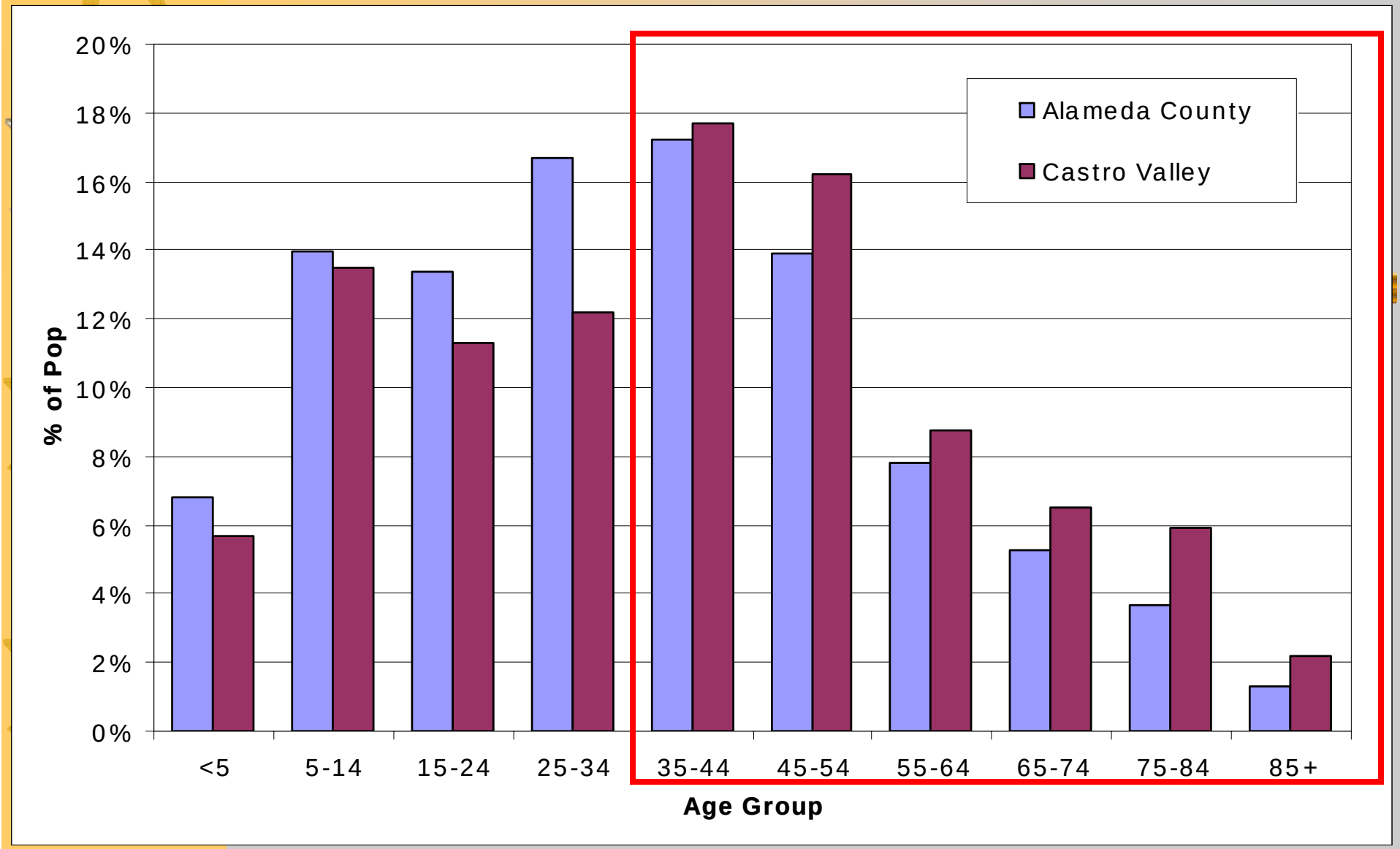
Household Income



Race/Ethnicity



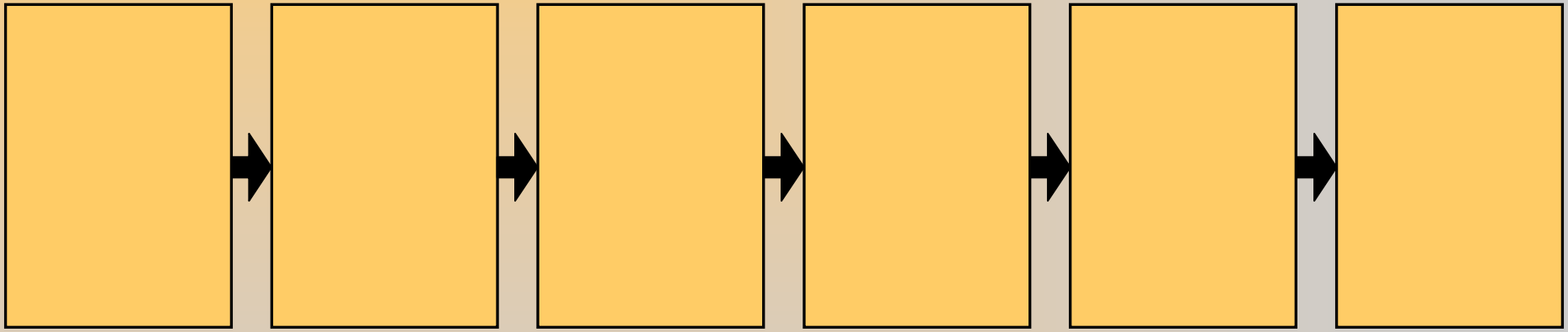
Age


20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
% of Pop
Alameda County
Castro Valley
<5
5-14
15-24
25-34
35-44
45-54
55-64
65-74
75-84
85+
Age Group

Castro Valley vs. AC

- Wealthier
- Less diverse
- Older

BARHII Framework



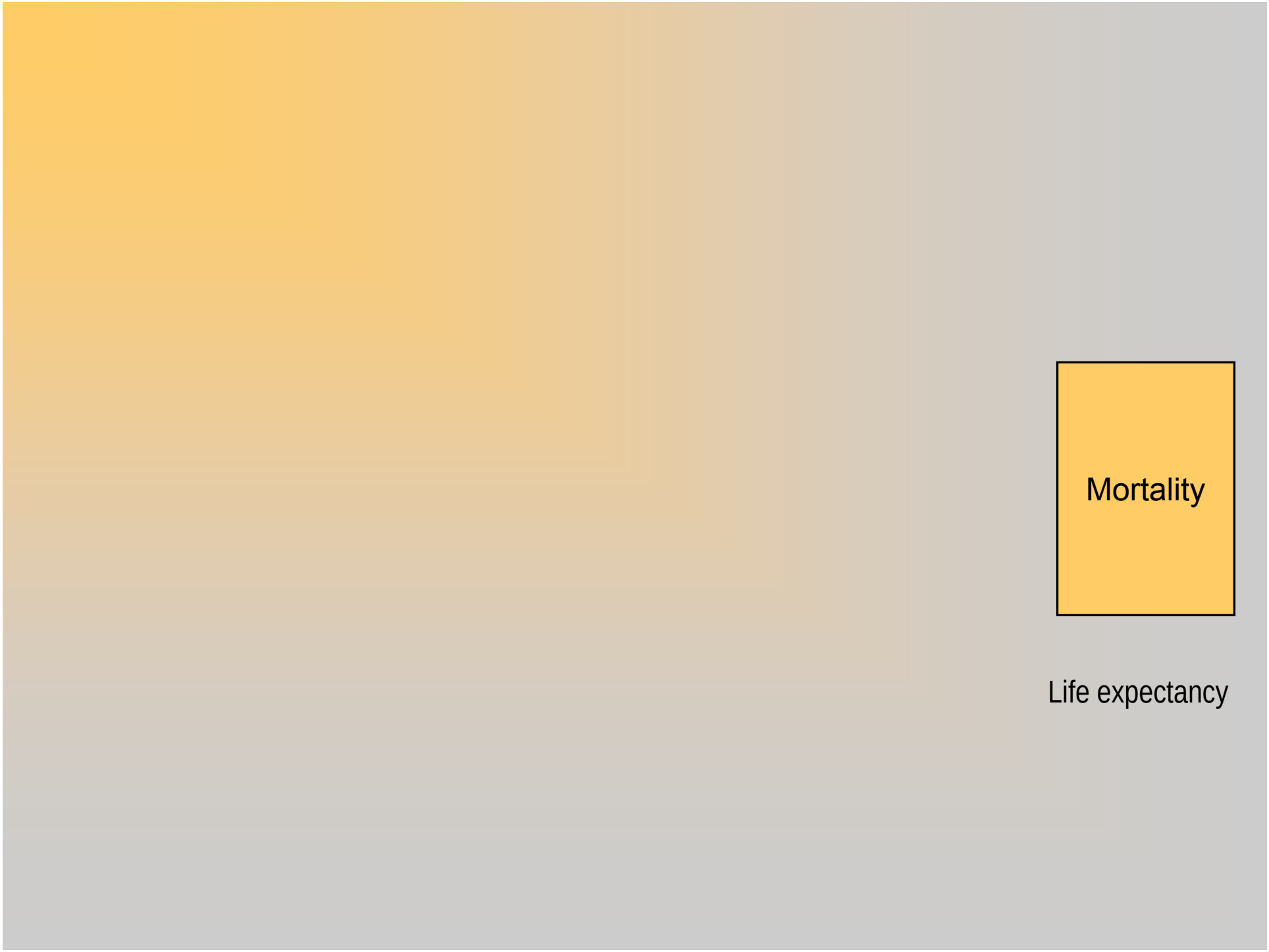
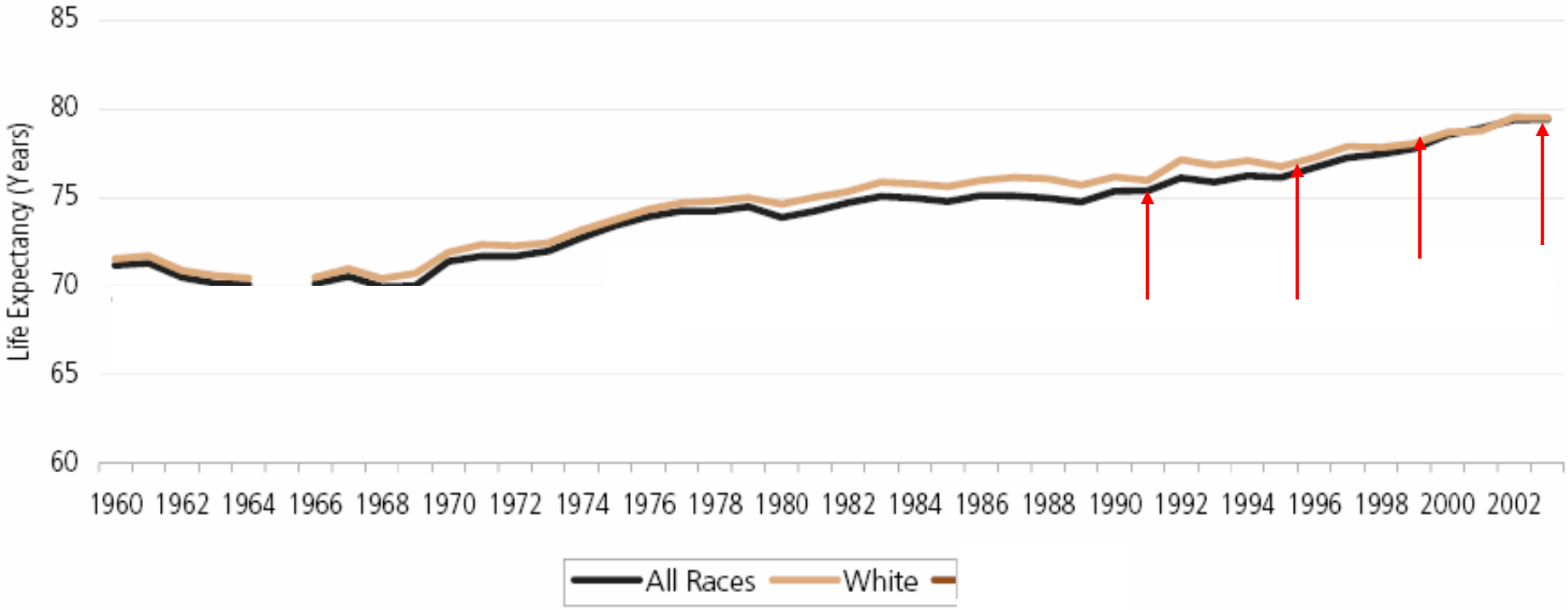
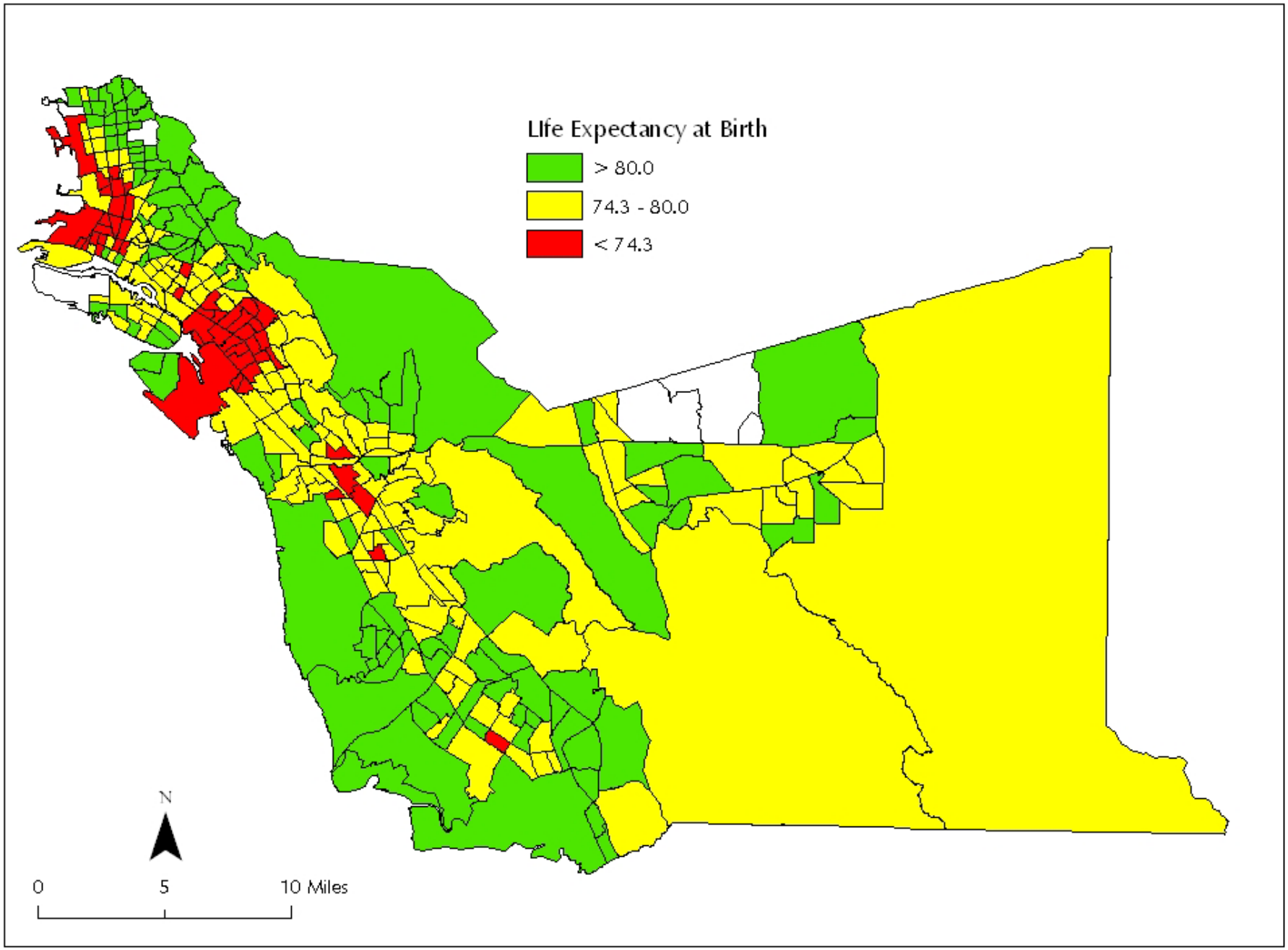

Mortality
Life expectancy

Figure 18: Life Expectancy at Birth, Alameda County, 1960-2003

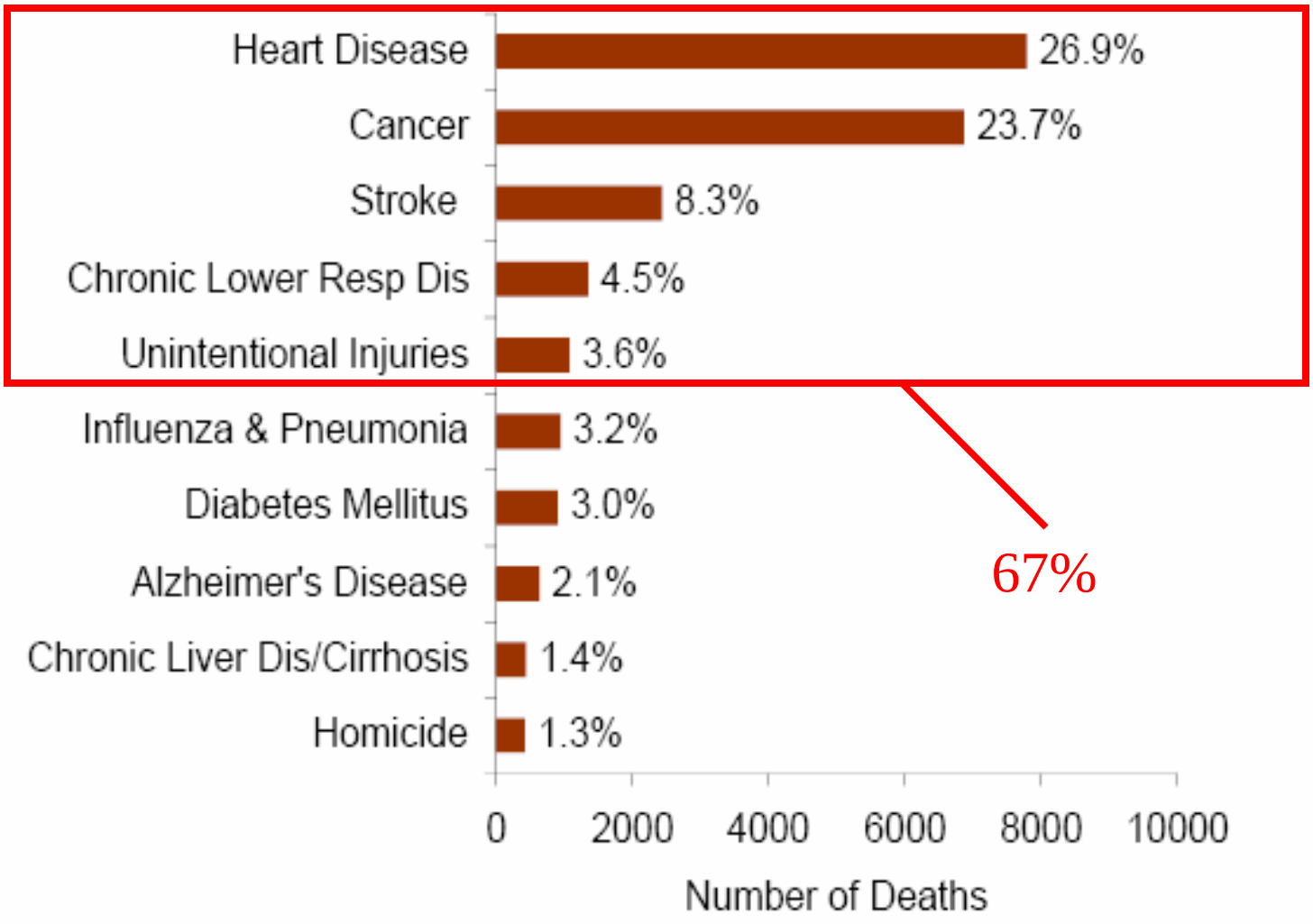


Life Expectancy by Tract

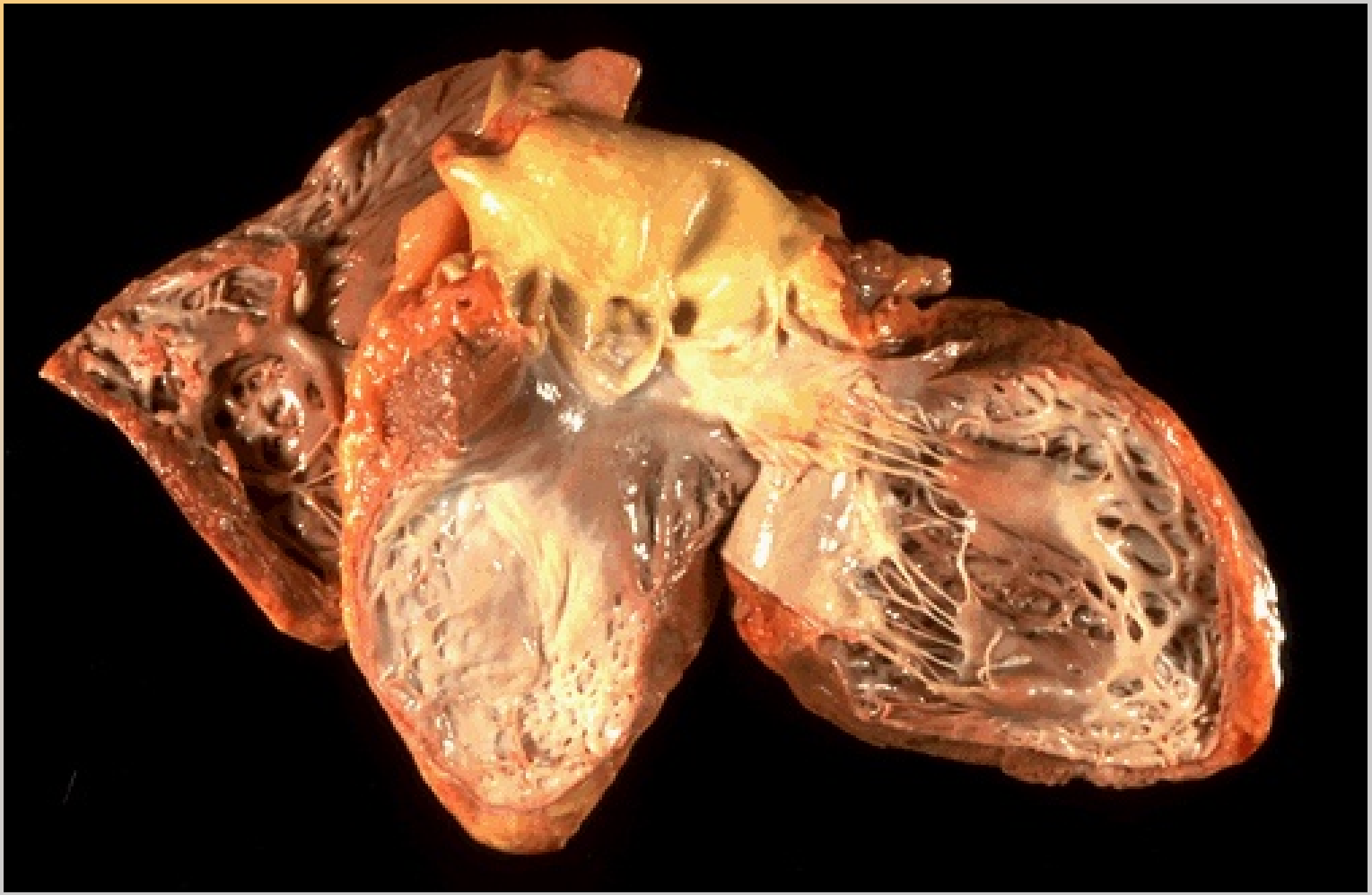


Source: CAPE, with data from vital statistics 1999-2001.

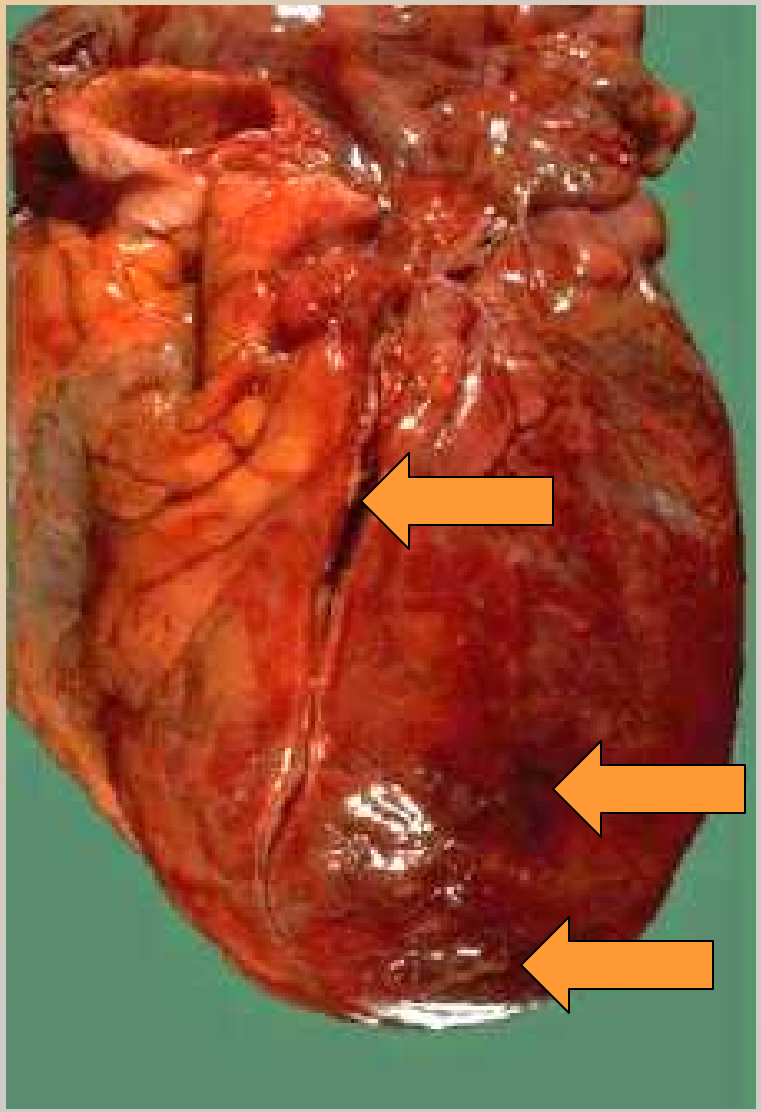
Leading Causes of Death, Alameda County, 2001-2003 (N=28,790)



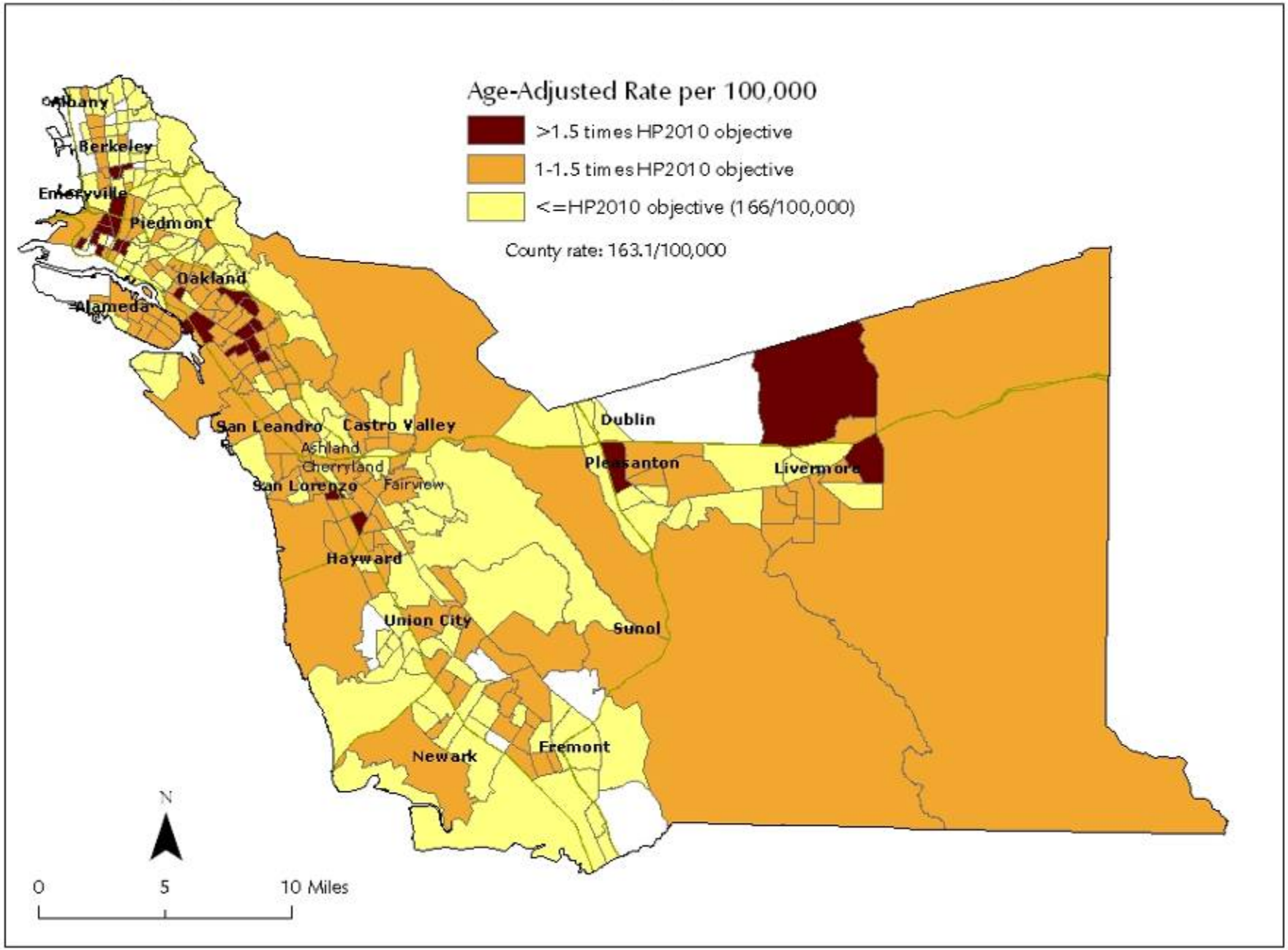
Cardiovascular Disease



Coronary Thrombosis With Infarction

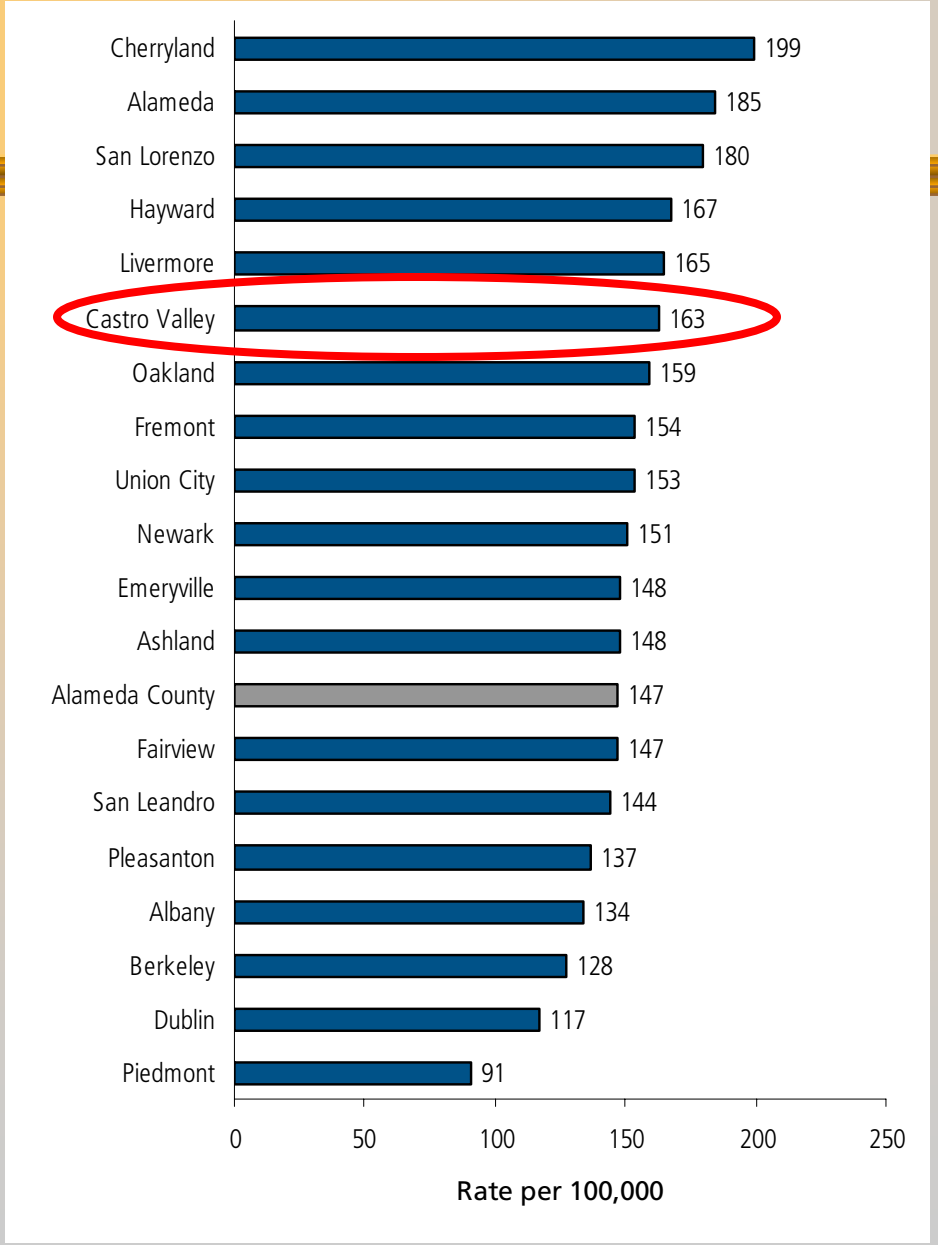


Coronary Heart Disease Mortality Rate, 2000-2004



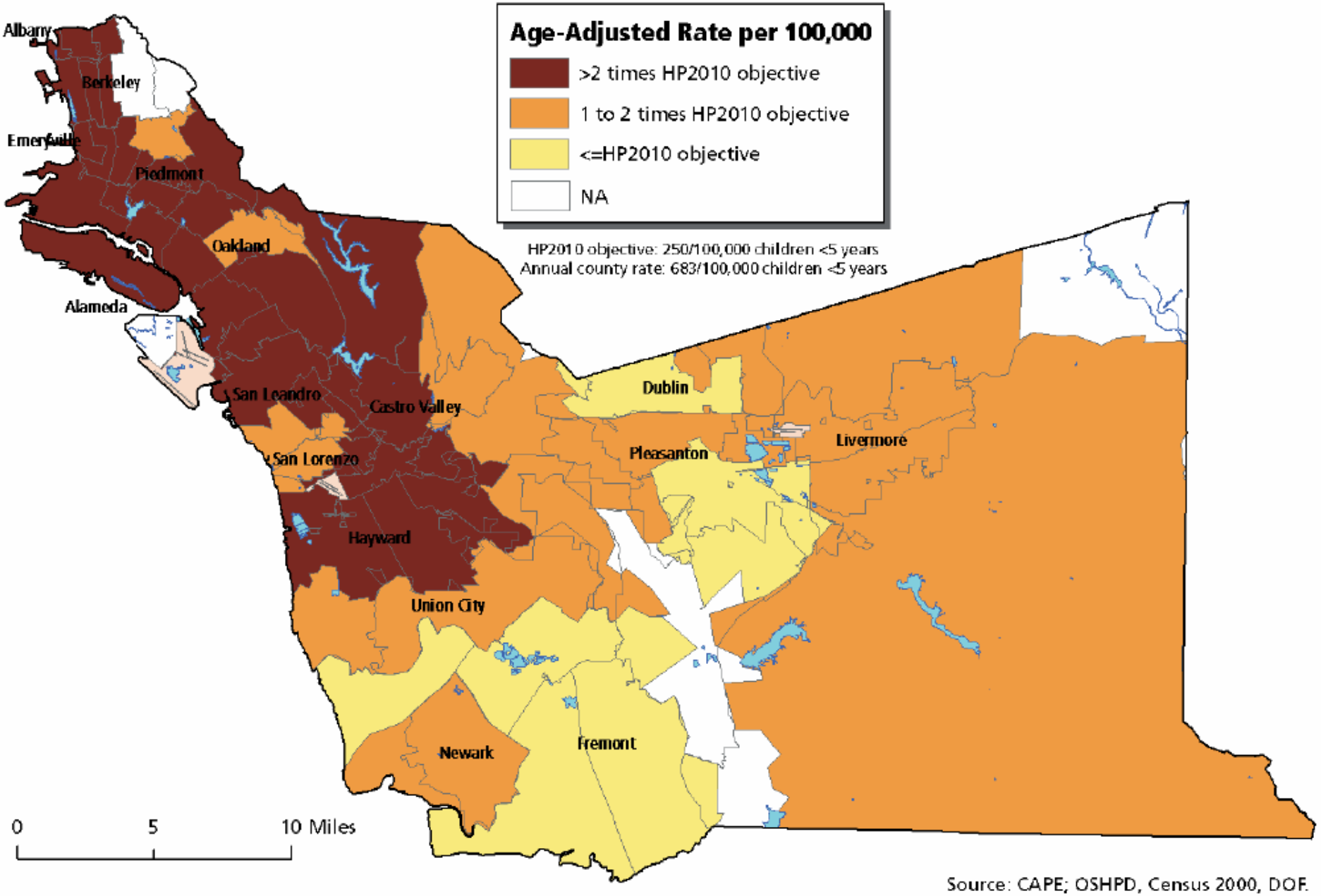
Source: CAPE, with data from vital statistics files.

Coronary Heart Disease Mortality



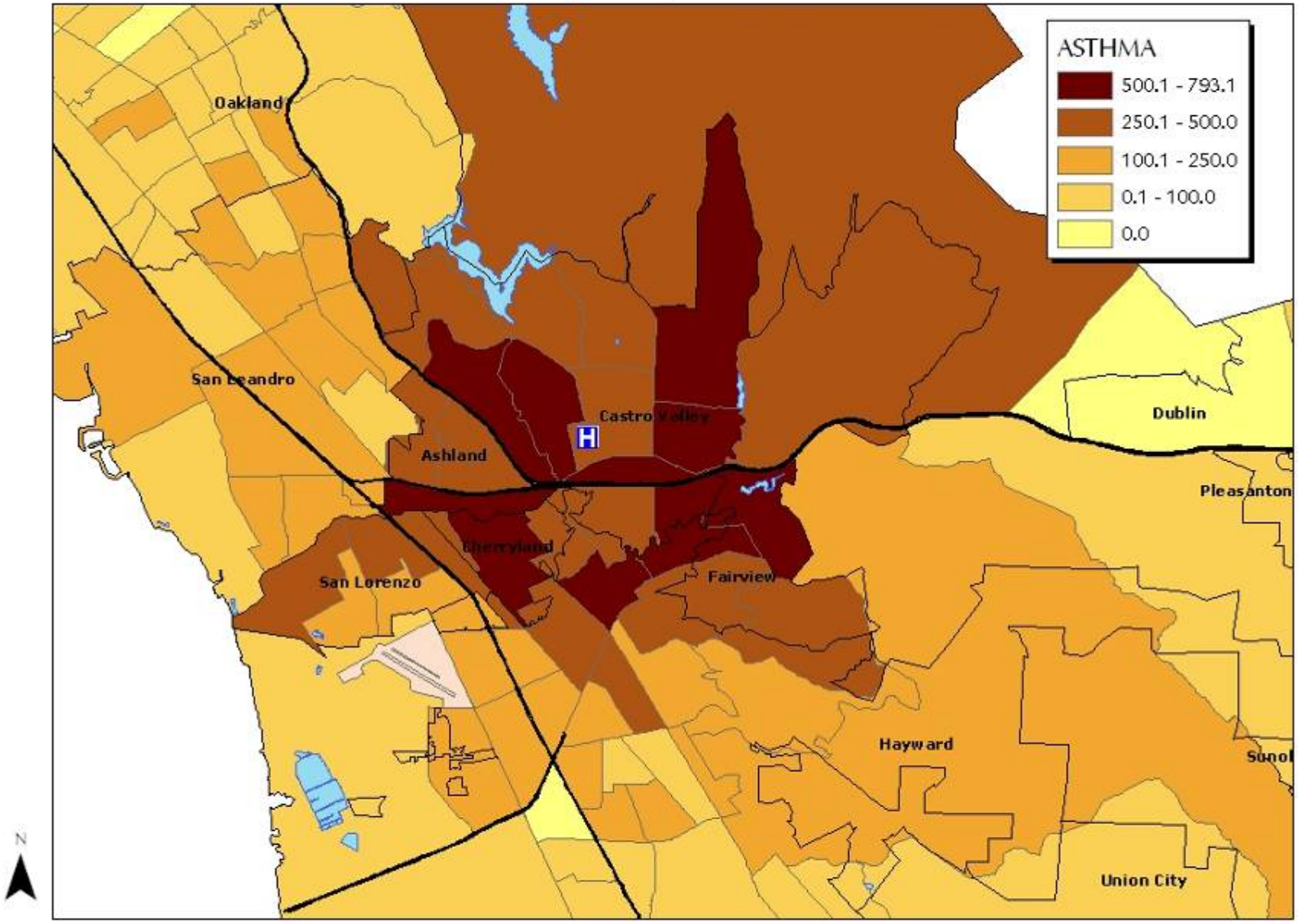
Asthma

Map 4: Childhood Asthma (<5 years) Hospitalization, Alameda County, 2001-2003

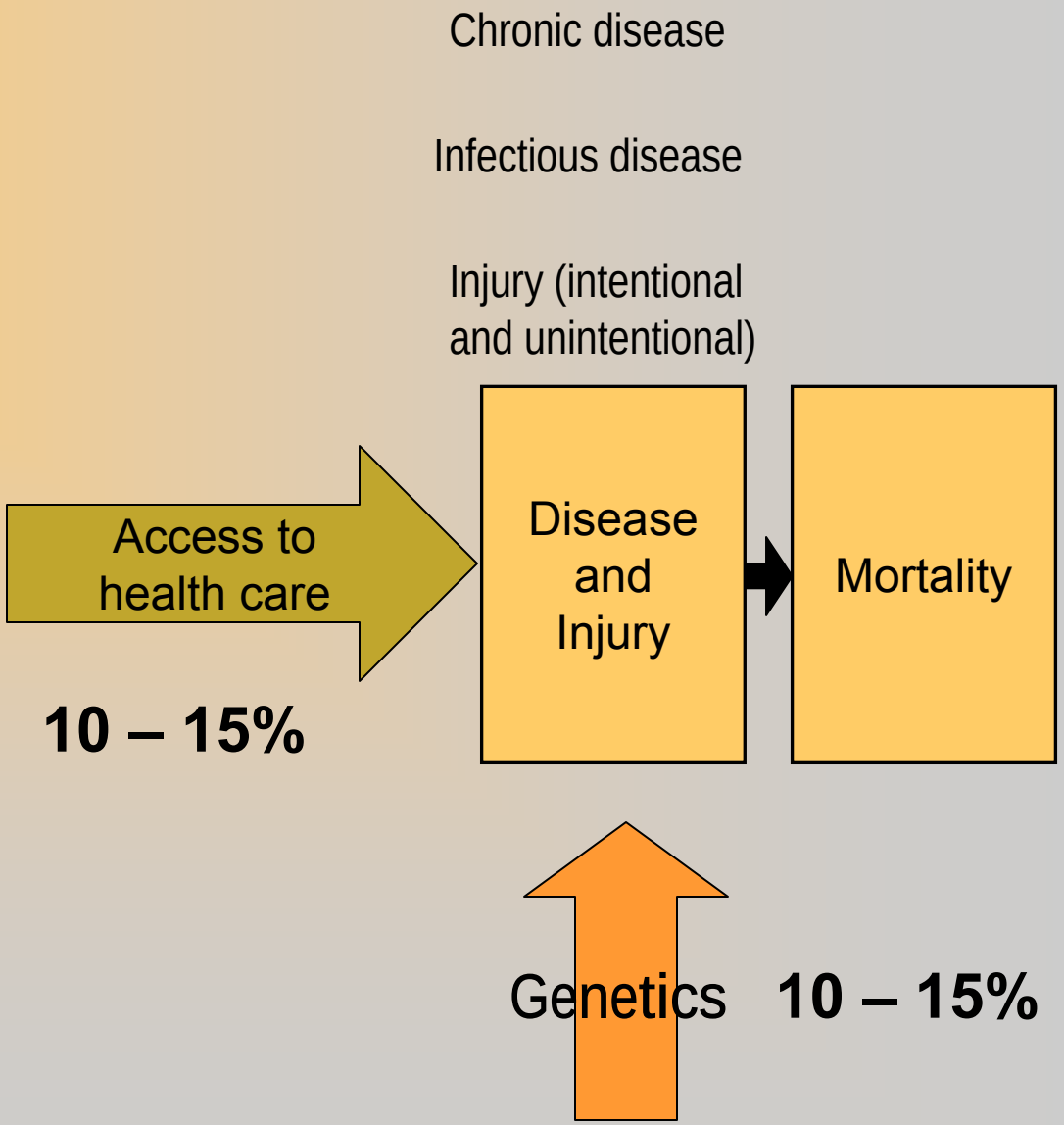


Source: CAPE; OSHPD, Census 2000, DOF.

Census Tract Asthma Emergency Room Visit Rate



Source: CAPE, with data from Eden Medical Center.

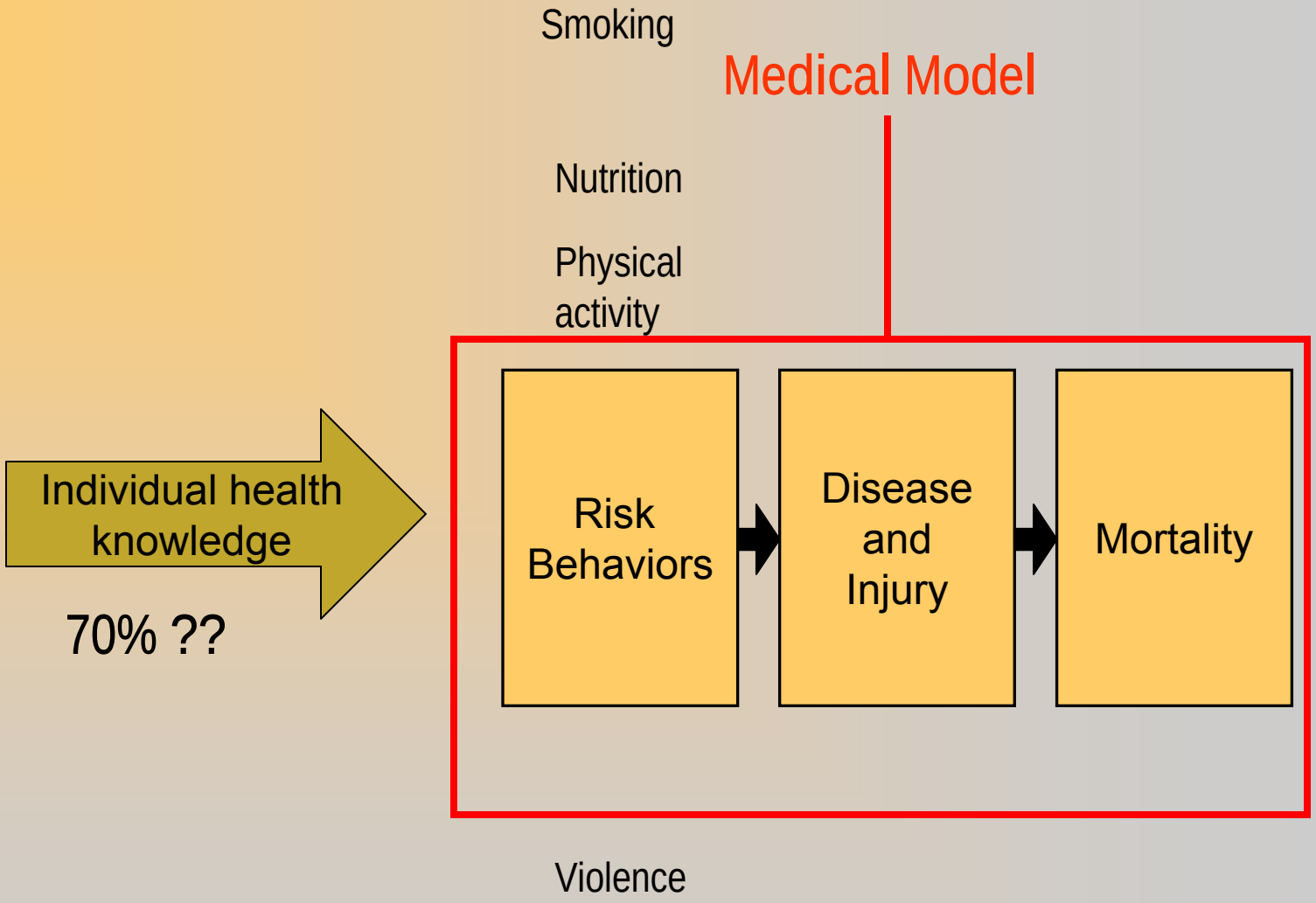

Chronic disease
Infectious disease
Injury (intentional and unintentional)
Access to health care
10 – 15%
Disease and Injury
Mortality
Genetics
10 – 15%

Causes of Differences in Health Outcomes

- Genetics 10-15%
- Access to health care 10-15%

15% + 15% = only 30%

What causes the other 70%???

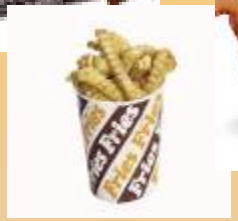

Smoking
Medical Model
Nutrition
Physical activity
Individual health knowledge
70% ??
Risk Behaviors
Disease and Injury
Mortality
Violence

Is This All About Personal Responsibility???

The Medical Model Assumes that "Risk Behaviors" are the Missing 70%

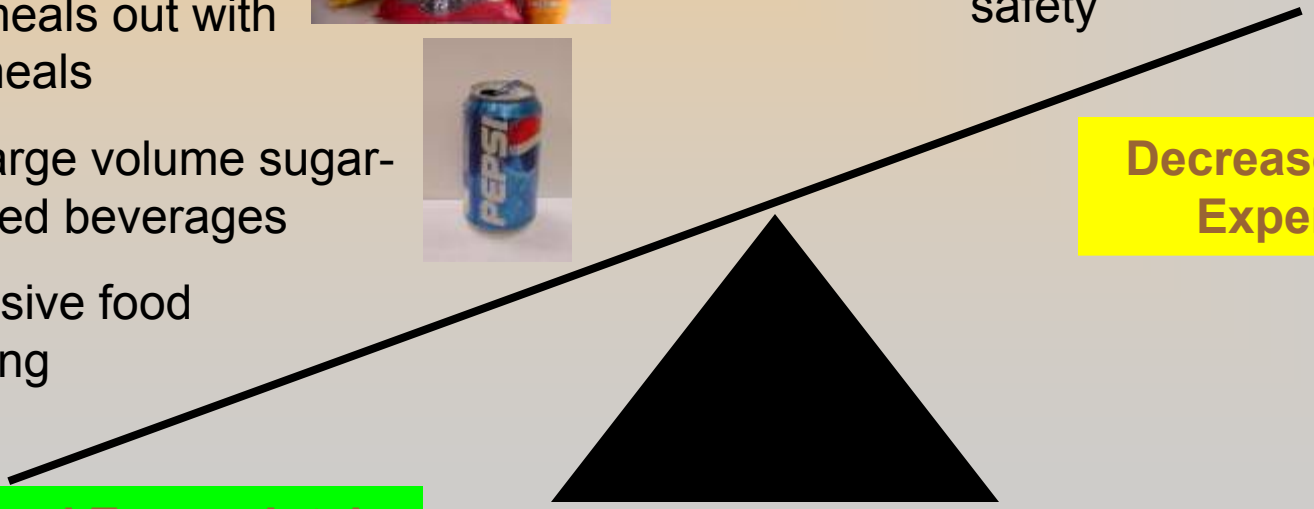
The Obesity Epidemic

The Basic Problem



- More foods available everywhere
- More meals out with bigger meals
- More large volume sugar-sweetened beverages
- Aggressive food advertising

- More TV, video, computers
- More car travel
- Fewer PE classes
- Fewer safe walking/bike routes
- Lower perception of safety

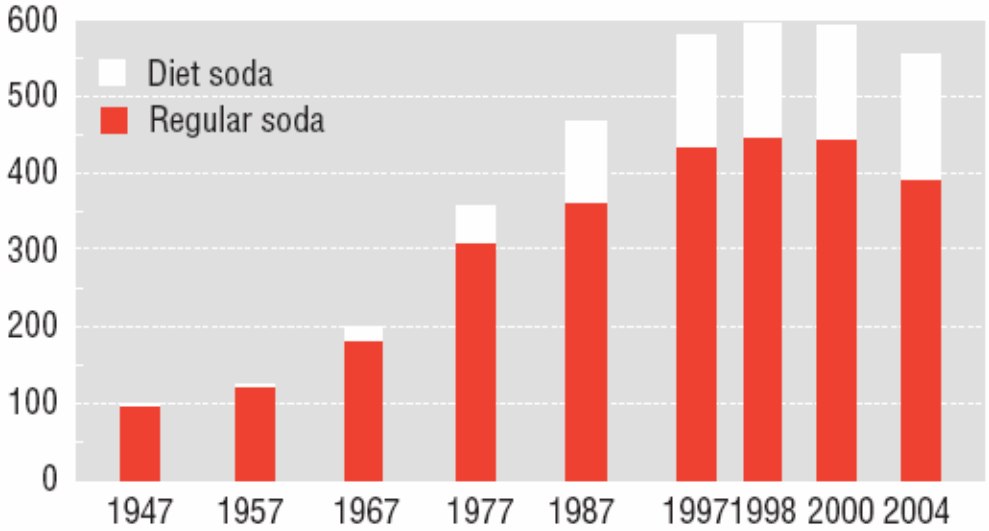


Decreased Energy Expenditure

Increased Energy Intake

Figure 1

Annual soft drink production in the United States (12-oz. cans/person)



Sources: USDA Economic Research Service (1947–87); Beverage Digest (1997–2004).

Figure 2

Growth in soda container size (oz.)

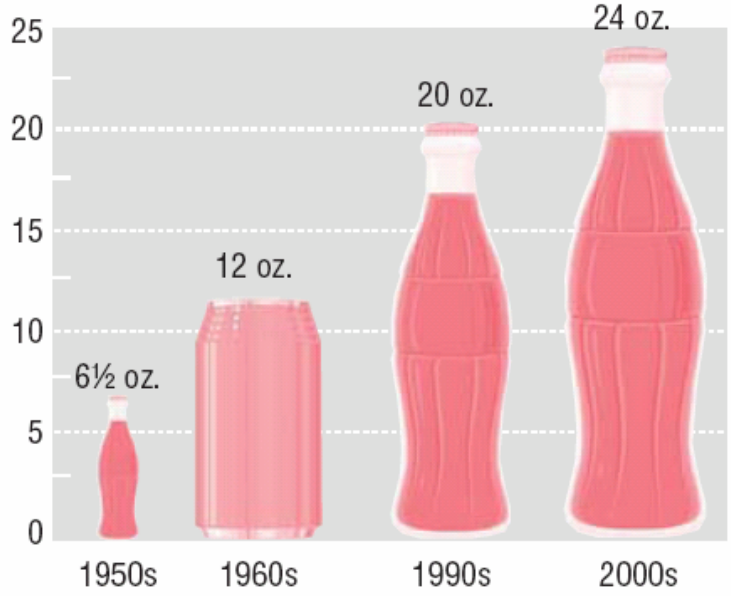
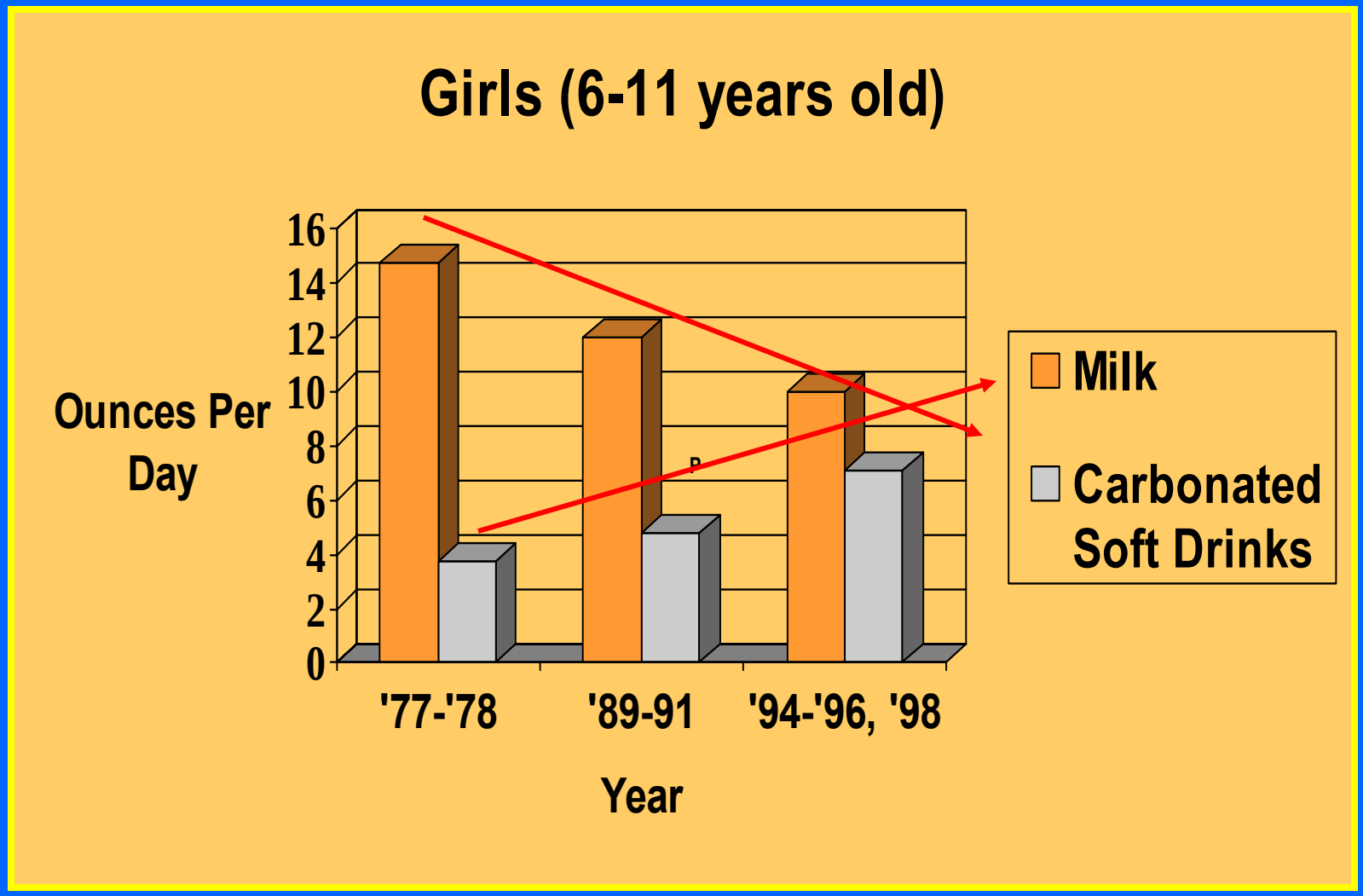


Table 6
Low soft-drink prices promote consumption

Beverage	Cost	Cost per quart
Cola, supermarket brand	$0.59/2 liters	$0.28
Coca-Cola	$0.69/2 liters	$0.33
	$2.50/6½ liters	$0.79
	$2.67/12 12-oz. cans	$0.59
Pepsi-Cola	$2.50/12 12-oz. cans	$0.56
	$0.79/2 liters	$0.37
Sierra Mist	$0.89/2 liters	$0.42
Cranberry Juice Cocktail	$1.99/64 oz.	$1.00
Capri Sun Juice	$2/10 6¾ oz. pouches	$0.95
Bottled water (supermarket brand)	$0.89/gallon	$0.22
Bottled spring water (supermarket brand)	$0.89/gallon	$0.22
Seltzer water, club soda, supermarket brand	$0.89/2 liters	$0.42
Dannon water	$5.99/24 16.9-oz. bottles	$0.47
Milk	$2.99/gallon	$0.75
	$0.95/quart	$0.95
Orange juice, frozen, supermarket brand	$1.49/12-oz. can	$0.99
Tropicana Orange Juice	$1.88/64 oz.	$0.94
Florida's Natural Orange Juice	$2.50/64 oz.	$1.25

Source: Prices at Washington, D.C., area stores, late 2004–early 2005; many prices are specials.

Milk vs. Soda Consumption



-Wilkinson et al. Trends in Food and Nutrient Intakes by Children in the United States. Family Economics and Nutrition Review. 2002; 14(2):56-68.

Industry Perspective

- "A growing body of scientific evidence by governmental and academic researchers, looking specifically at soft drink consumption, shows there is **no connection** between soft drink consumption and health problems, including obesity, tooth decay and bone health."
- -National Soft Drink Association website

Industry Perspective

- "Limiting calories in schools is a sensible approach that acknowledges our industry's long-standing belief that school wellness efforts must focus on teaching kids to consume a balanced diet and exercise more. Schools provide an opportunity to create a healthy environment that equips our children with these skills. Our industry will continue to do its part to contribute that environment."

-Susan Neely, CEO American Beverage Association

Alliance for a Healthier Generation

American Heart Association

CLINTON FOUNDATION

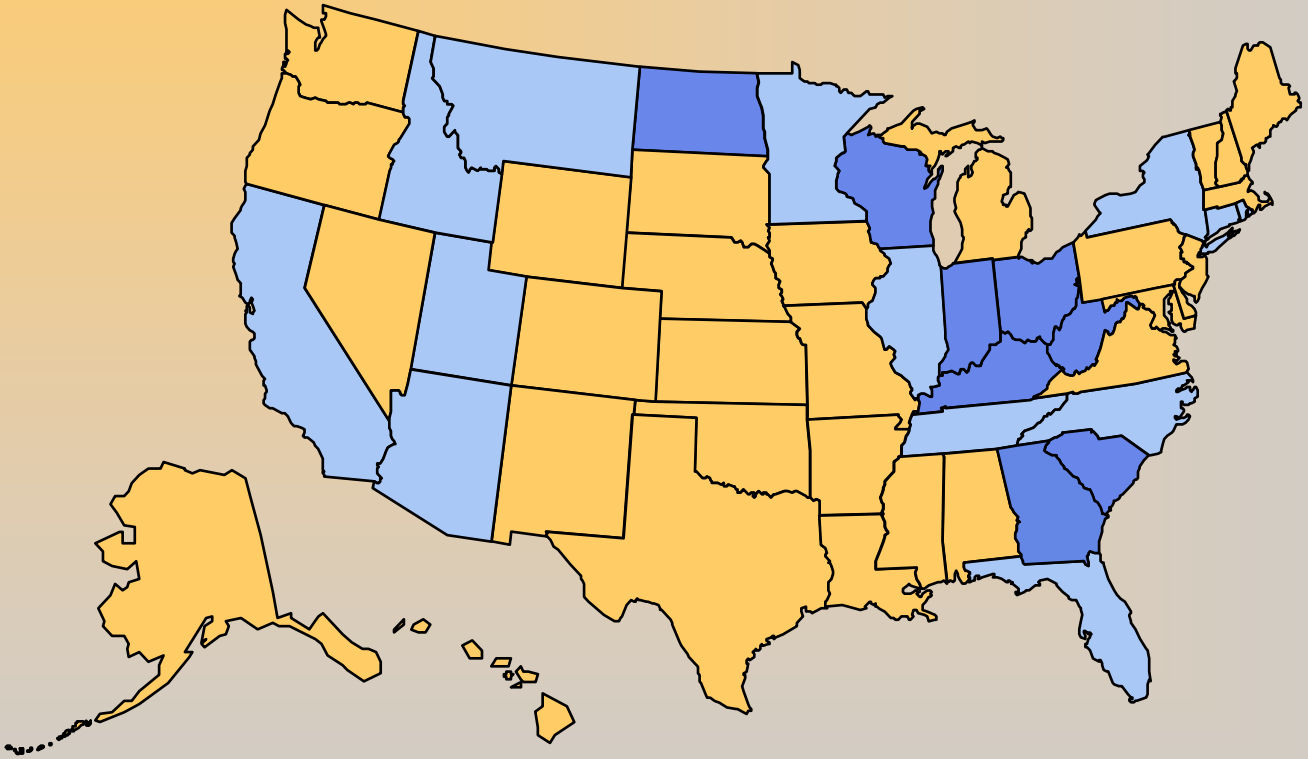
The Alliance and Industry leaders set healthy school beverage guidelines for U.S. schools

The Alliance for a Healthier Generation – a joint initiative of the William J. Clinton Foundation and the American Heart Association – has worked with representatives of Cadbury Schweppes, Coca-Cola, PepsiCo, and the American Beverage Association to establish new guidelines to limit portion sizes and reduce the number of calories available to children during the school day. Under these guidelines, only lower calorie and nutritious beverages will be sold to schools.

Obesity Trends Among U.S. Adults*

BRFSS, 1985

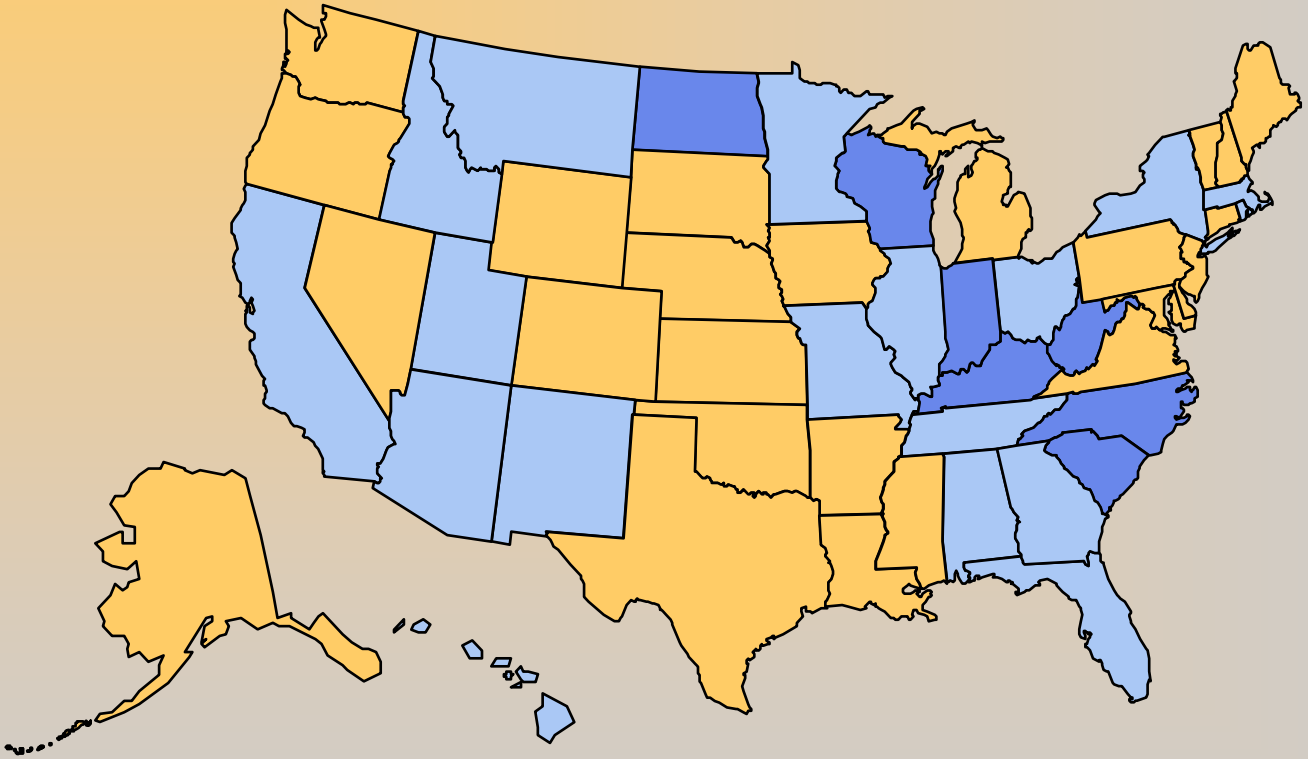
(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)



Obesity Trends Among U.S. Adults*

BRFSS, 1986

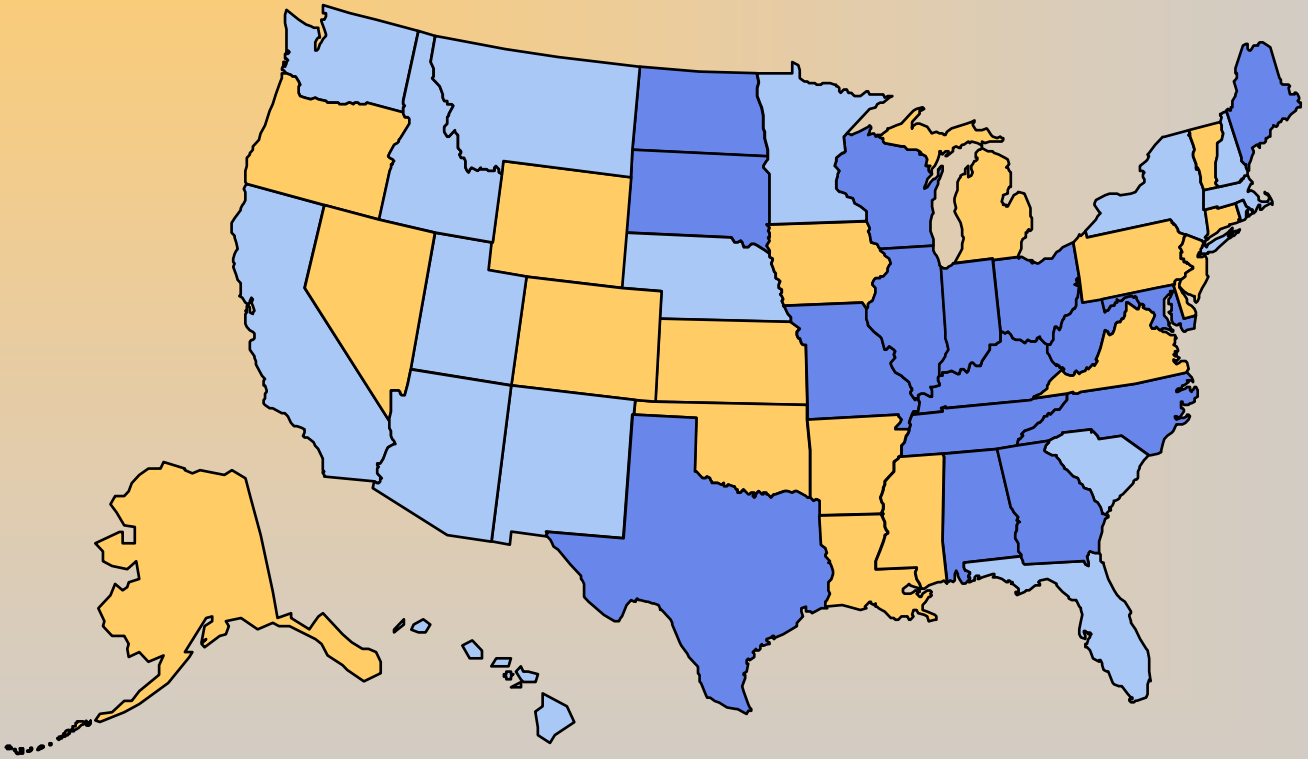
(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)



Obesity Trends Among U.S. Adults*

BRFSS, 1987

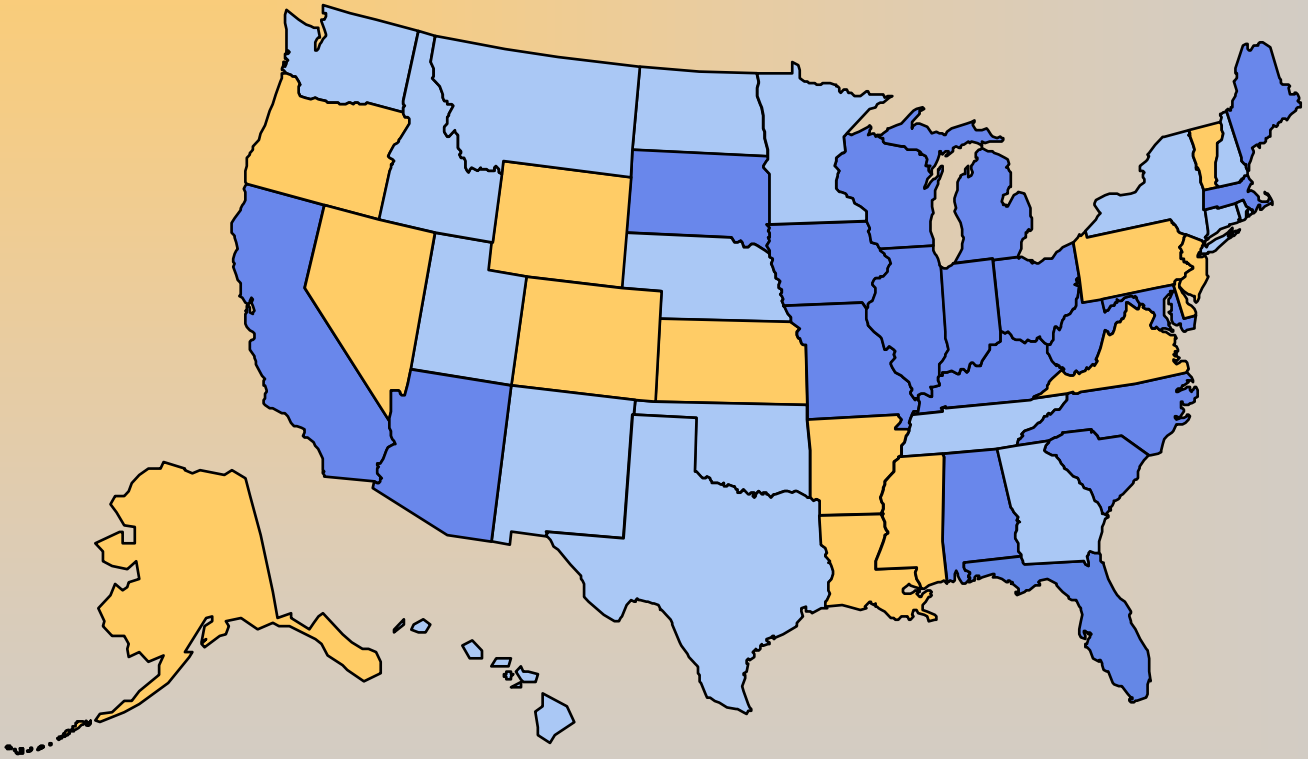
(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)



Obesity Trends Among U.S. Adults*

BRFSS, 1988

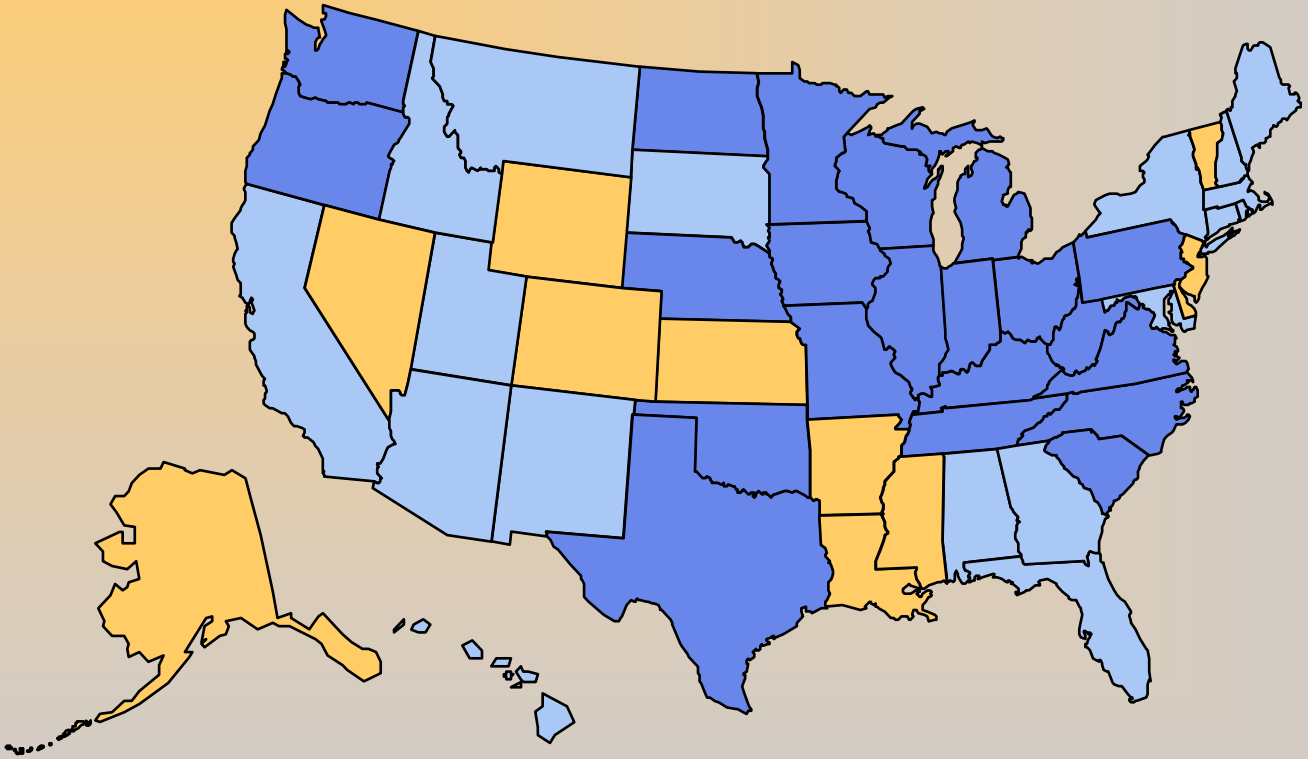
(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)



Obesity Trends Among U.S. Adults*

BRFSS, 1989

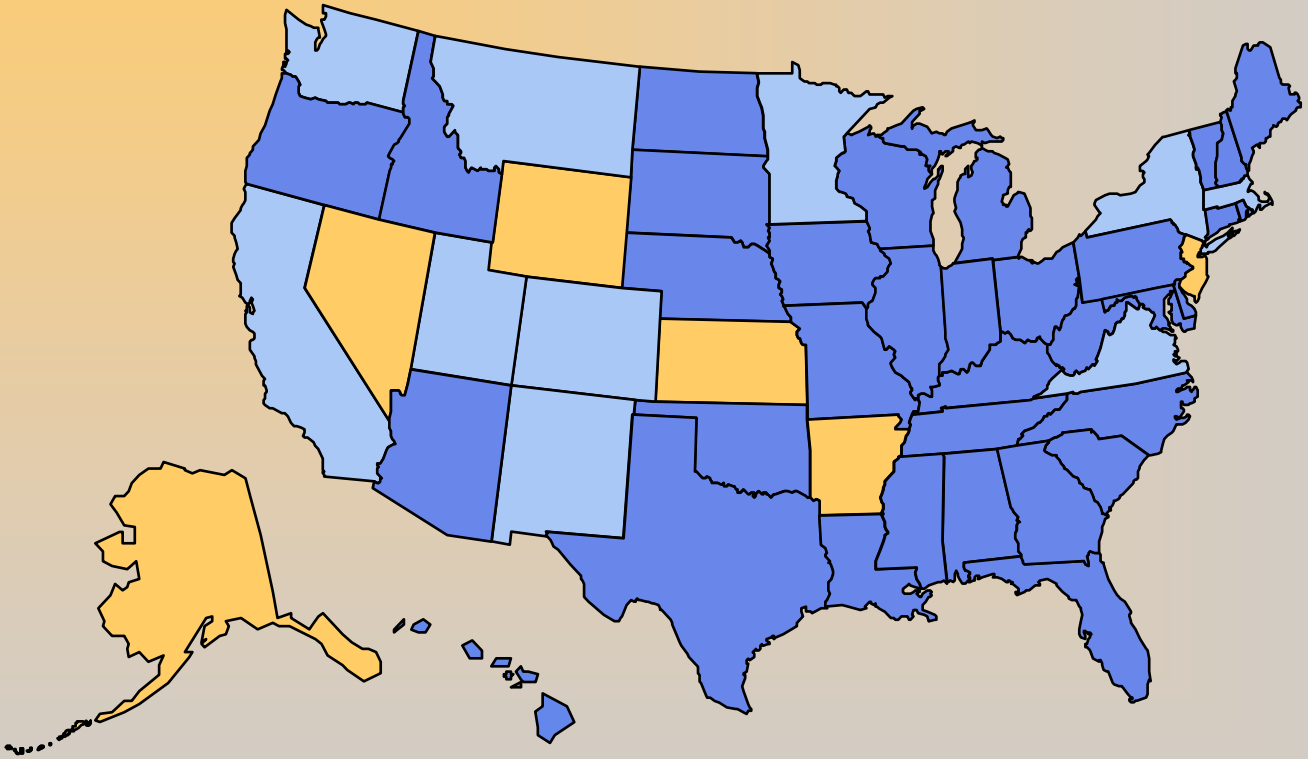
(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)



Obesity Trends Among U.S. Adults*

BRFSS, 1990

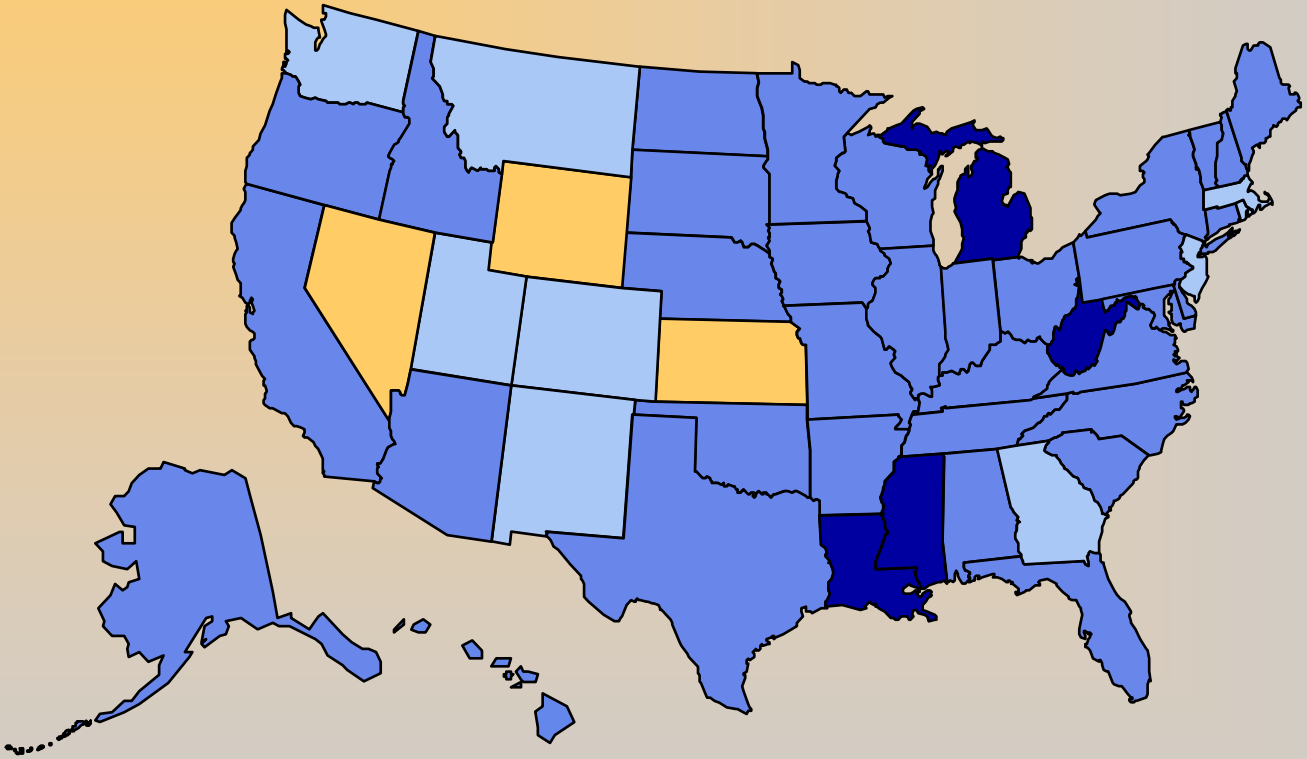
(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)



Obesity Trends Among U.S. Adults*

BRFSS, 1991

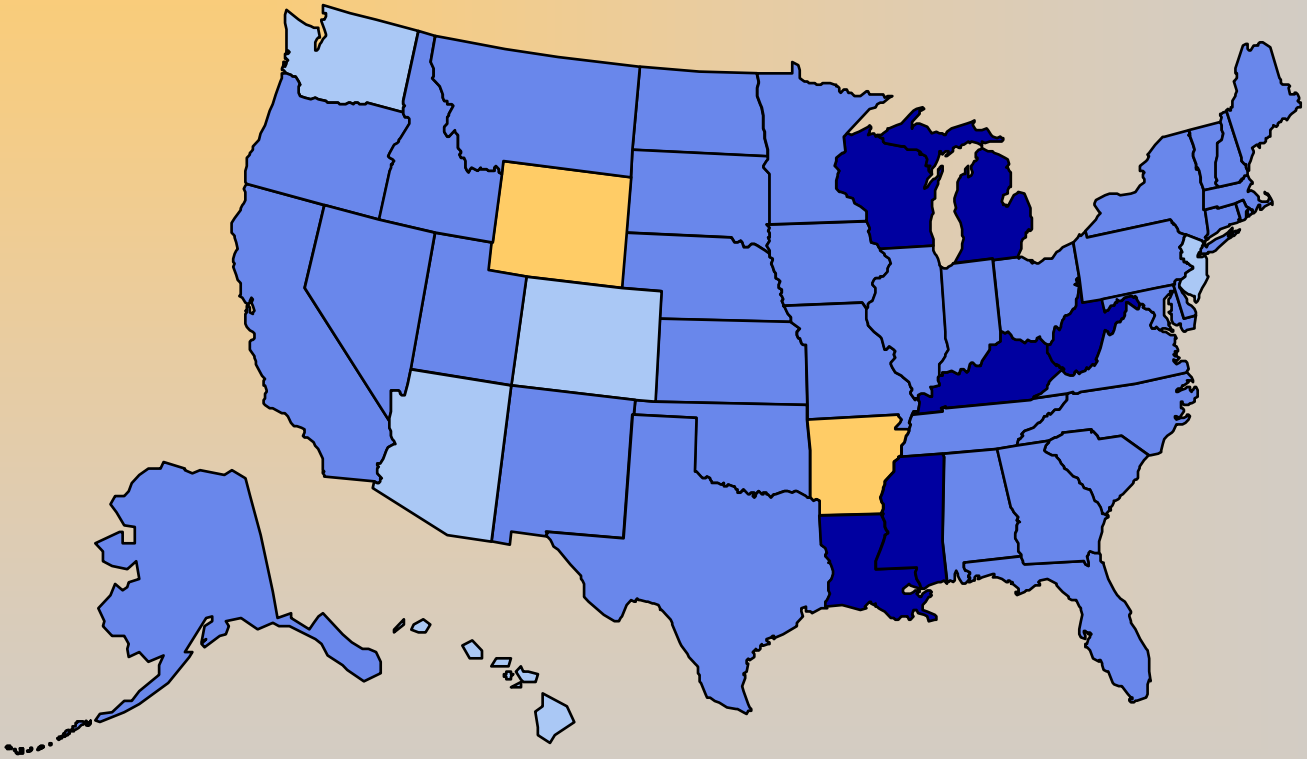
(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)



Obesity Trends Among U.S. Adults*

BRFSS, 1992

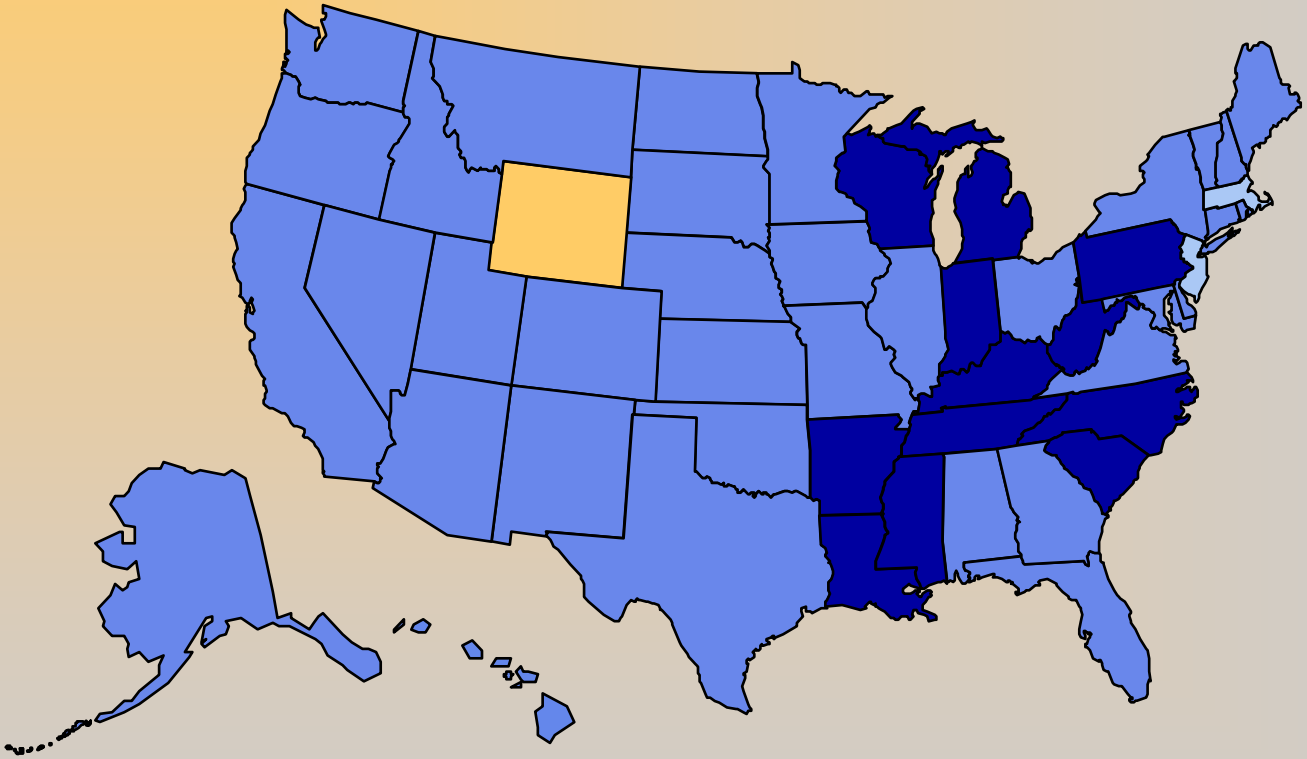
(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)



Obesity Trends Among U.S. Adults*

BRFSS, 1993

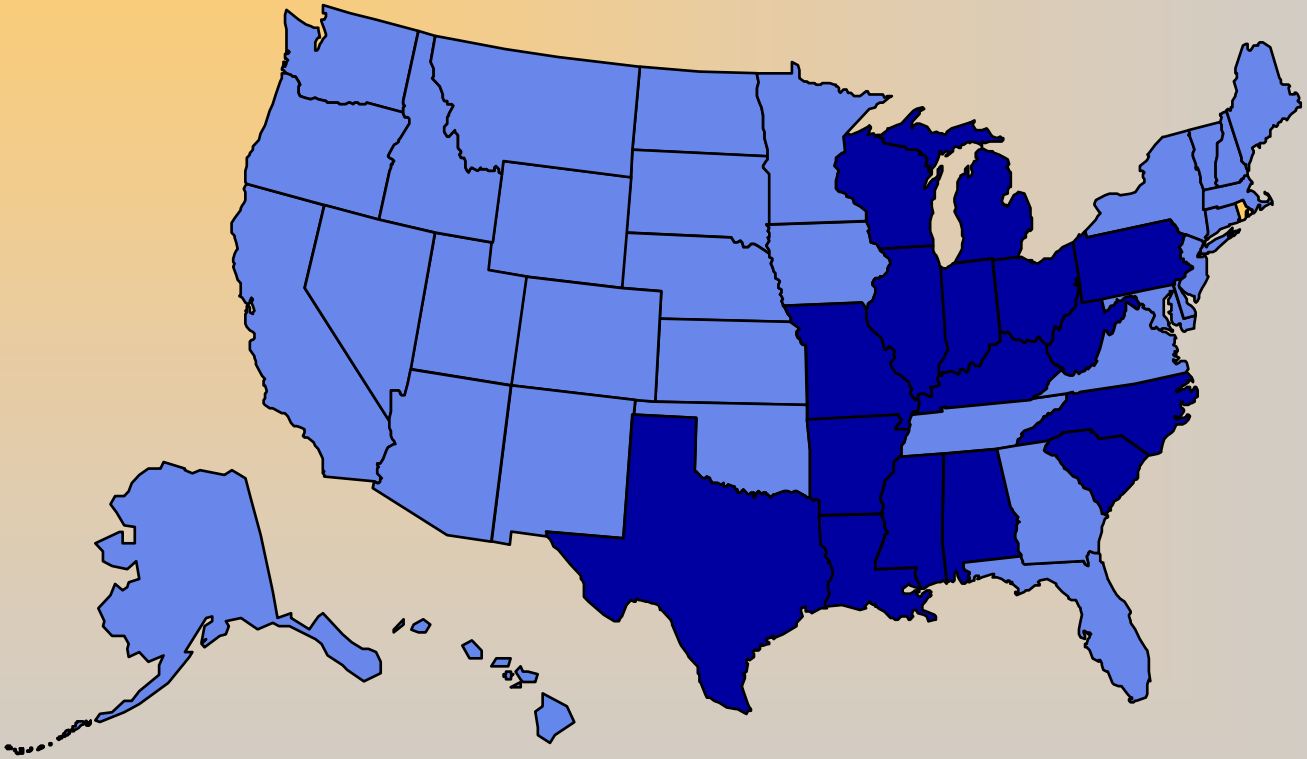
(*BMI ≥30, or ~ 30 lbs overweight for 5’ 4” person)



Obesity Trends Among U.S. Adults*

BRFSS, 1994

(*BMI ≥30, or ~ 30 lbs overweight for 5’ 4” person)

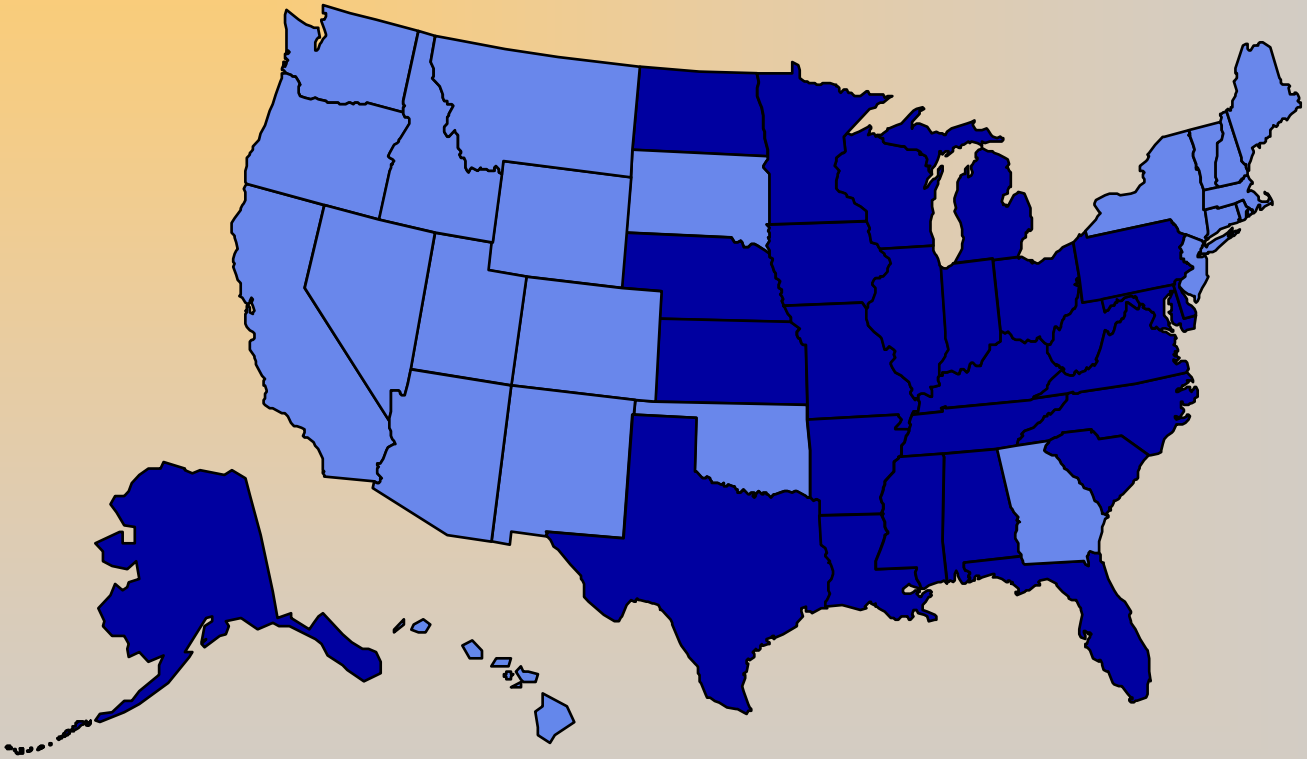


No Data | <10% | 10%–14% | 15%–19%

Obesity Trends Among U.S. Adults*

BRFSS, 1995

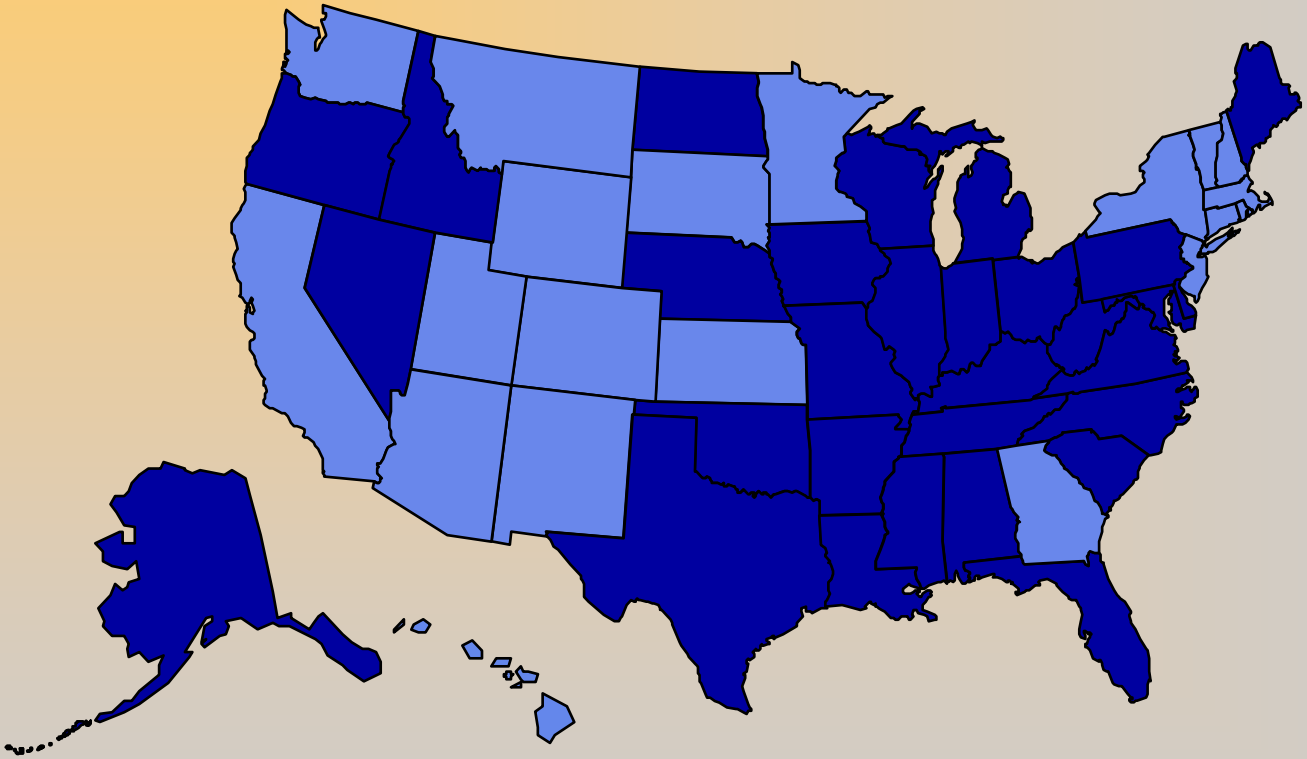
(*BMI ≥30, or ~ 30 lbs overweight for 5’ 4” person)



Obesity Trends Among U.S. Adults*

BRFSS, 1996

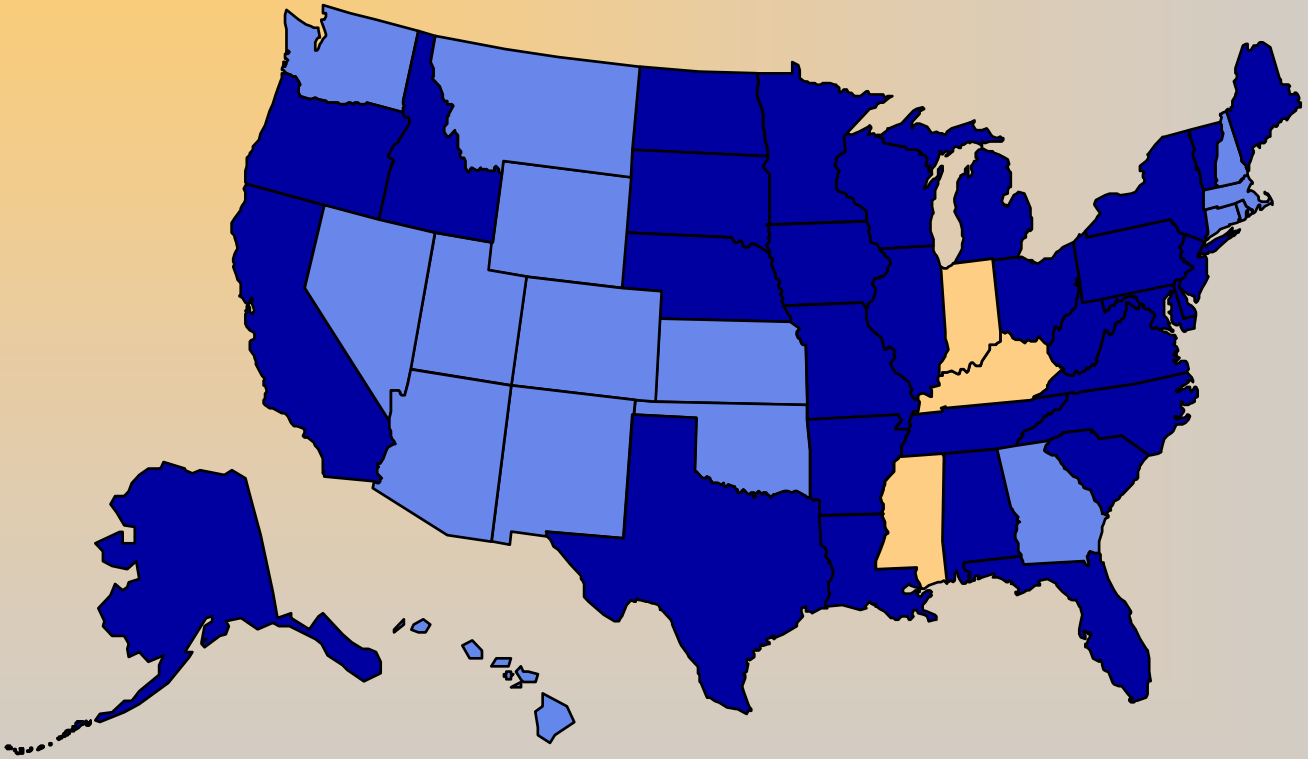
(*BMI ≥30, or ~ 30 lbs overweight for 5’ 4” person)



Obesity Trends Among U.S. Adults*

BRFSS, 1997

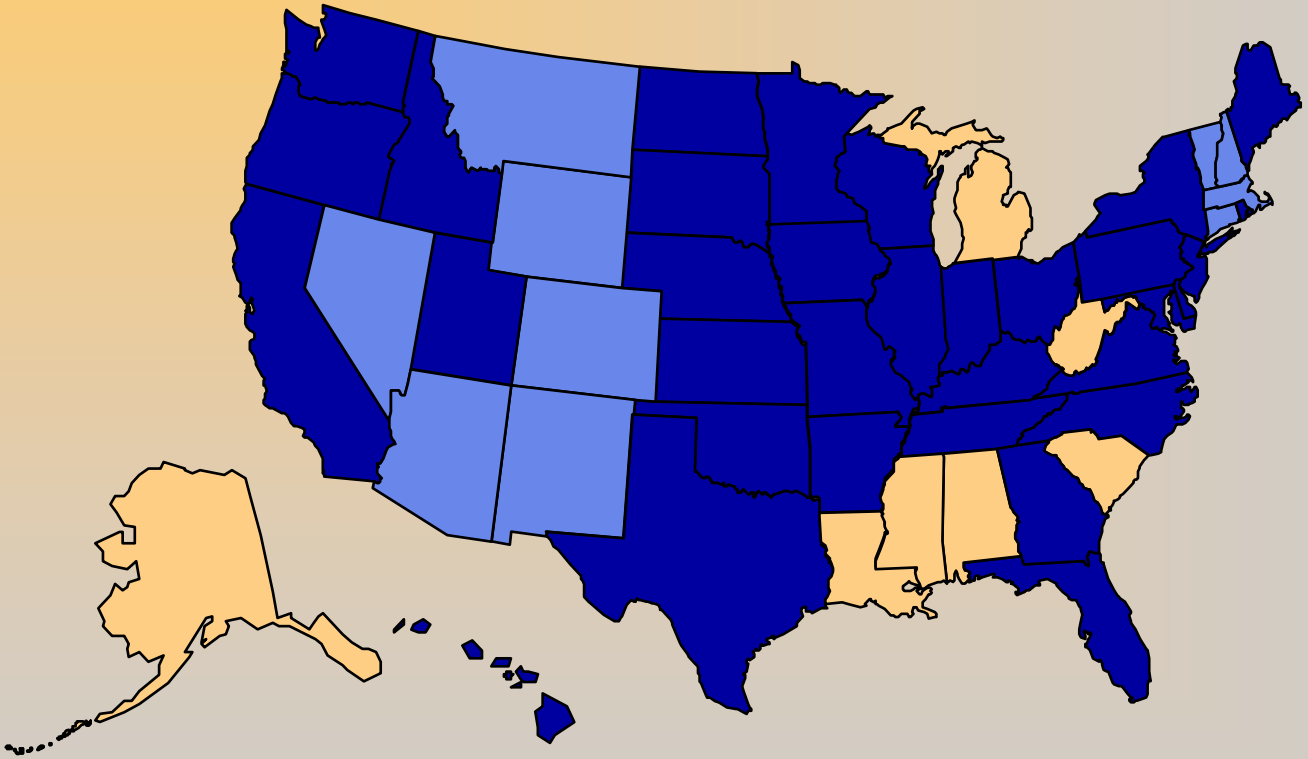
(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)



Obesity Trends Among U.S. Adults*

BRFSS, 1998

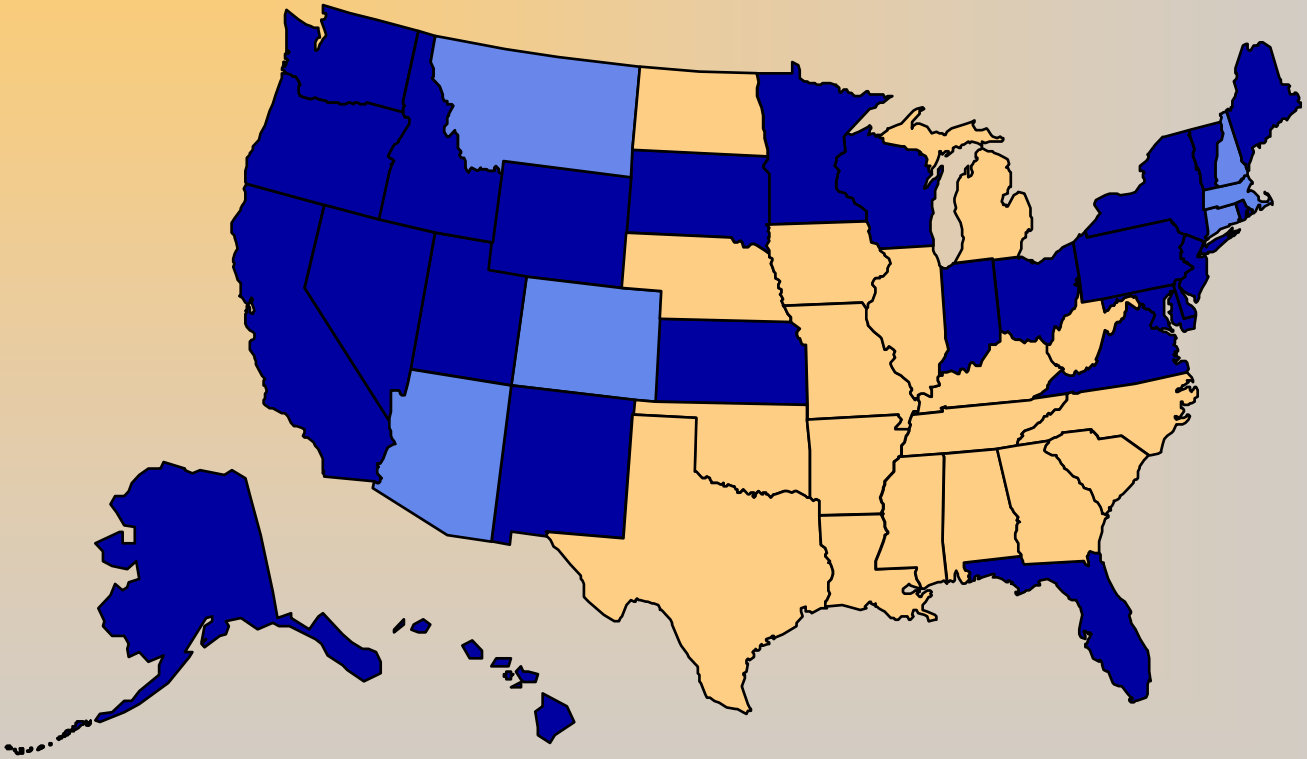
(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)

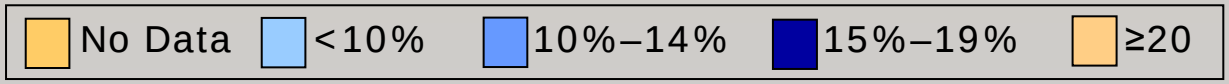


Obesity Trends Among U.S. Adults*

BRFSS, 1999

(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)

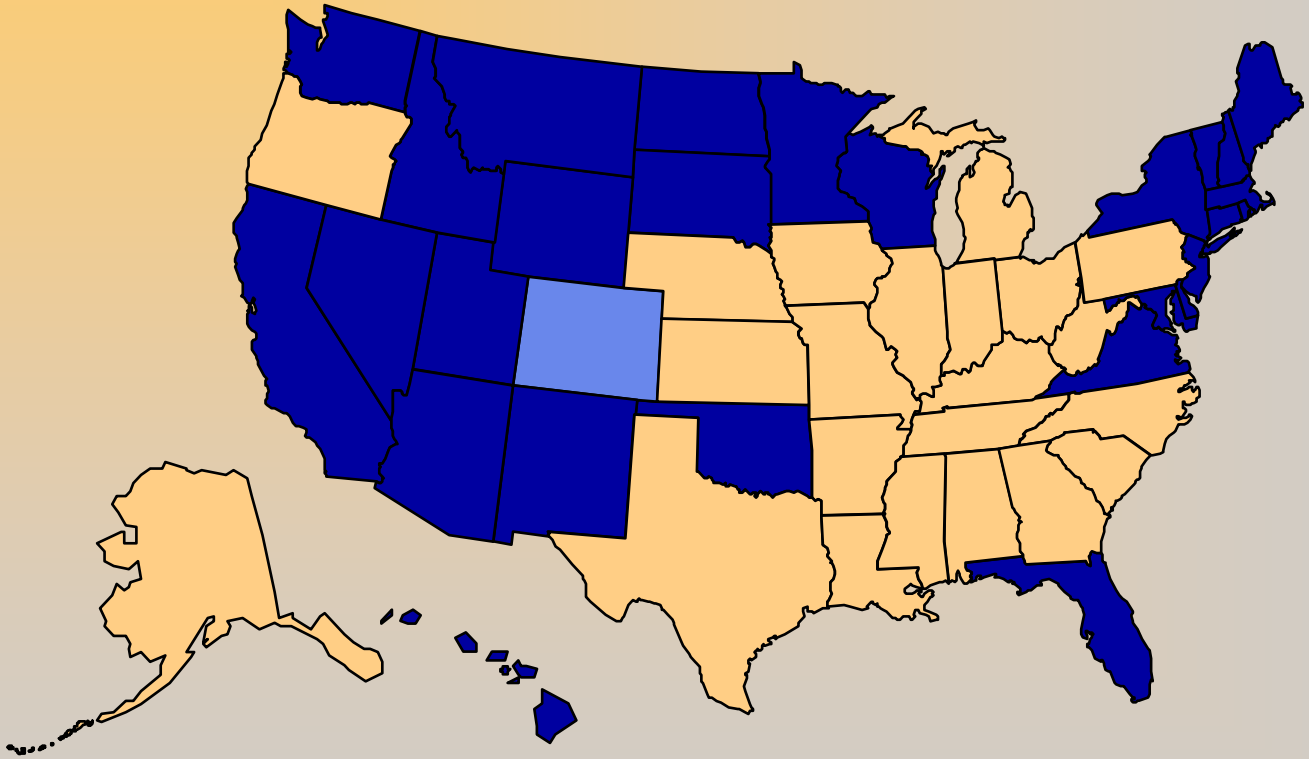




Obesity Trends Among U.S. Adults*

BRFSS, 2000

(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)

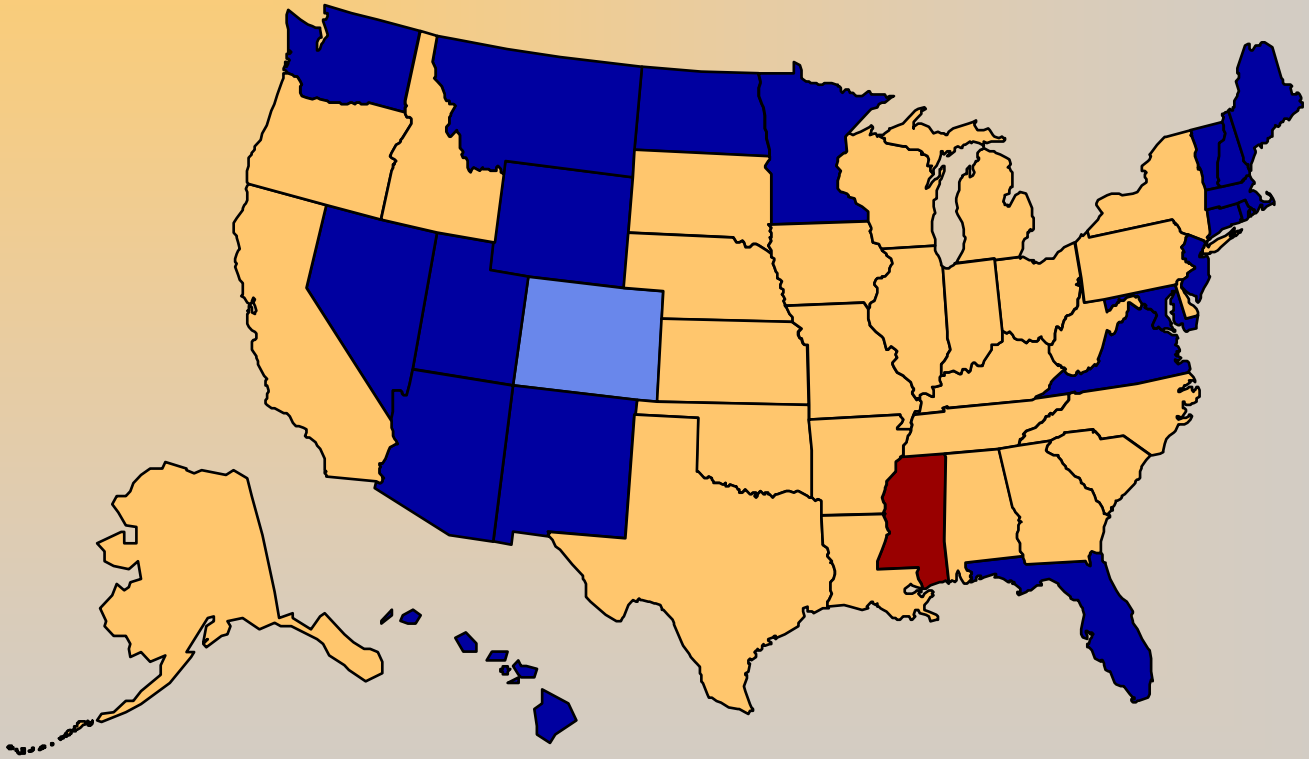


No Data | <10% | 10%–14% | 15%–19% | ≥20

Obesity Trends Among U.S. Adults*

BRFSS, 2001

(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)

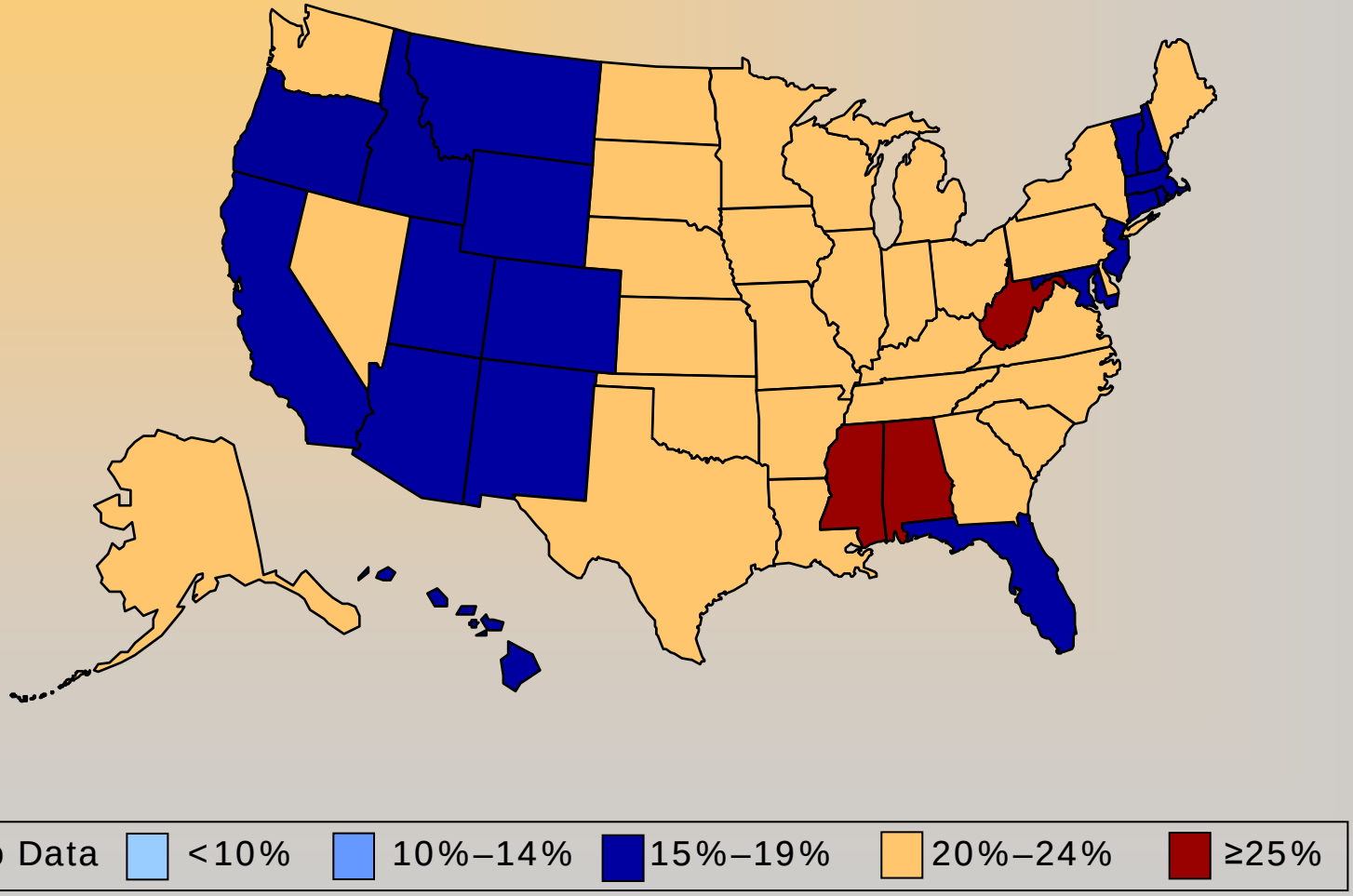


No Data | <10% | 10%–14% | 15%–19% | 20%–24% | ≥25%

Obesity Trends Among U.S. Adults*

BRFSS, 2002

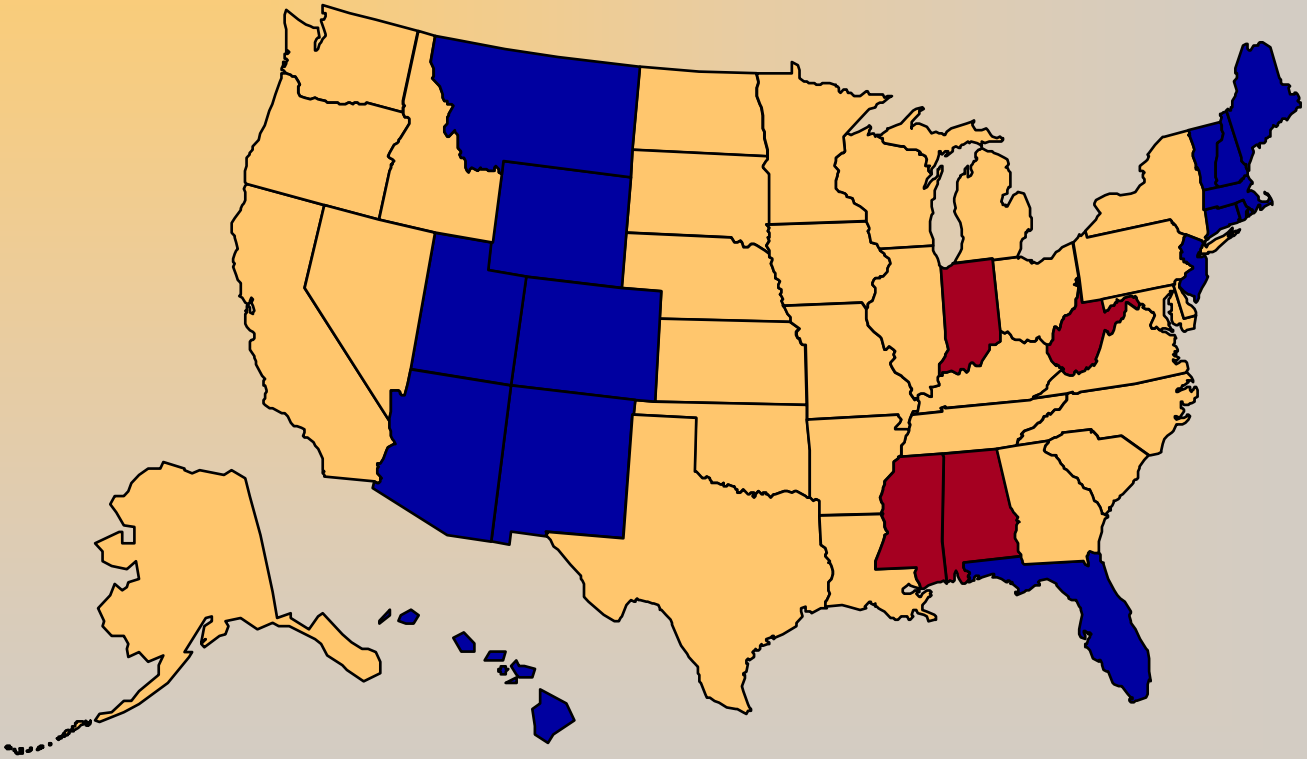
(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)



Obesity Trends Among U.S. Adults*

BRFSS, 2003

(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)

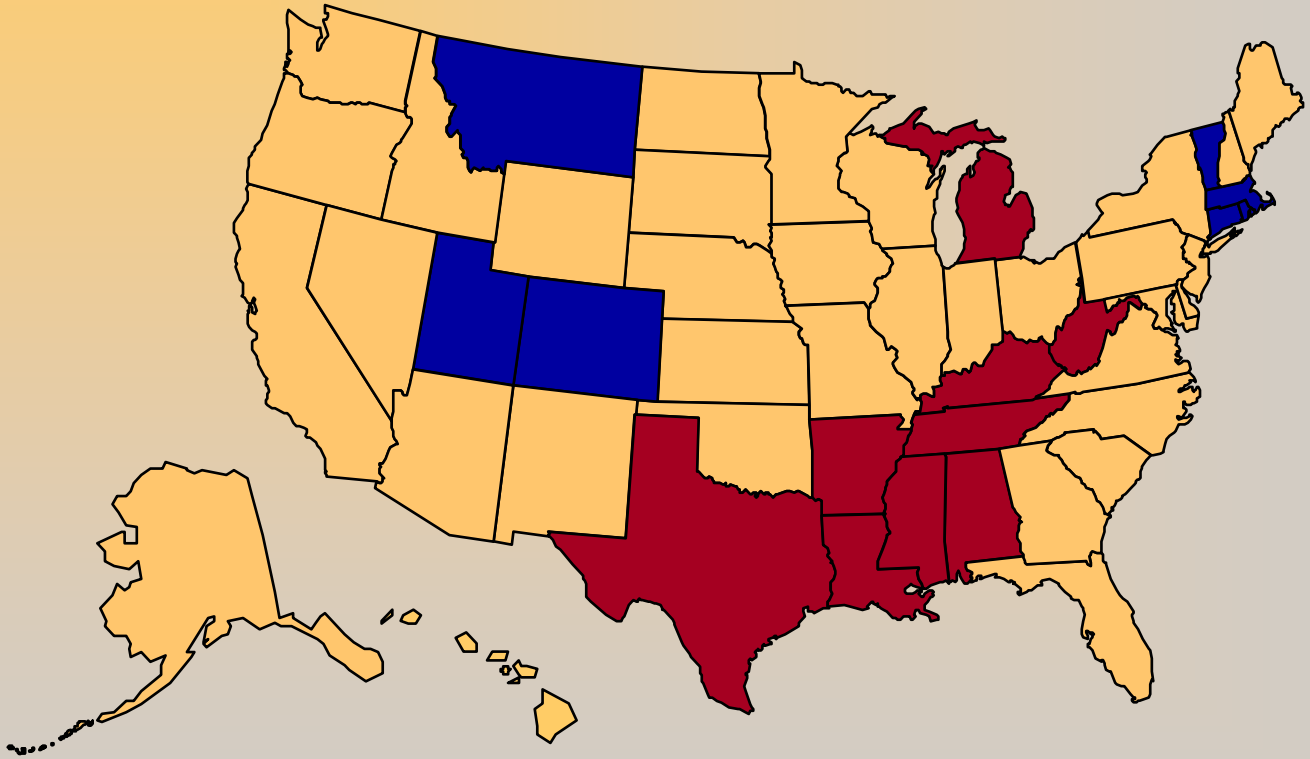


No Data | <10% | 10%–14% | 15%–19% | 20%–24% | ≥25%

Obesity Trends Among U.S. Adults*

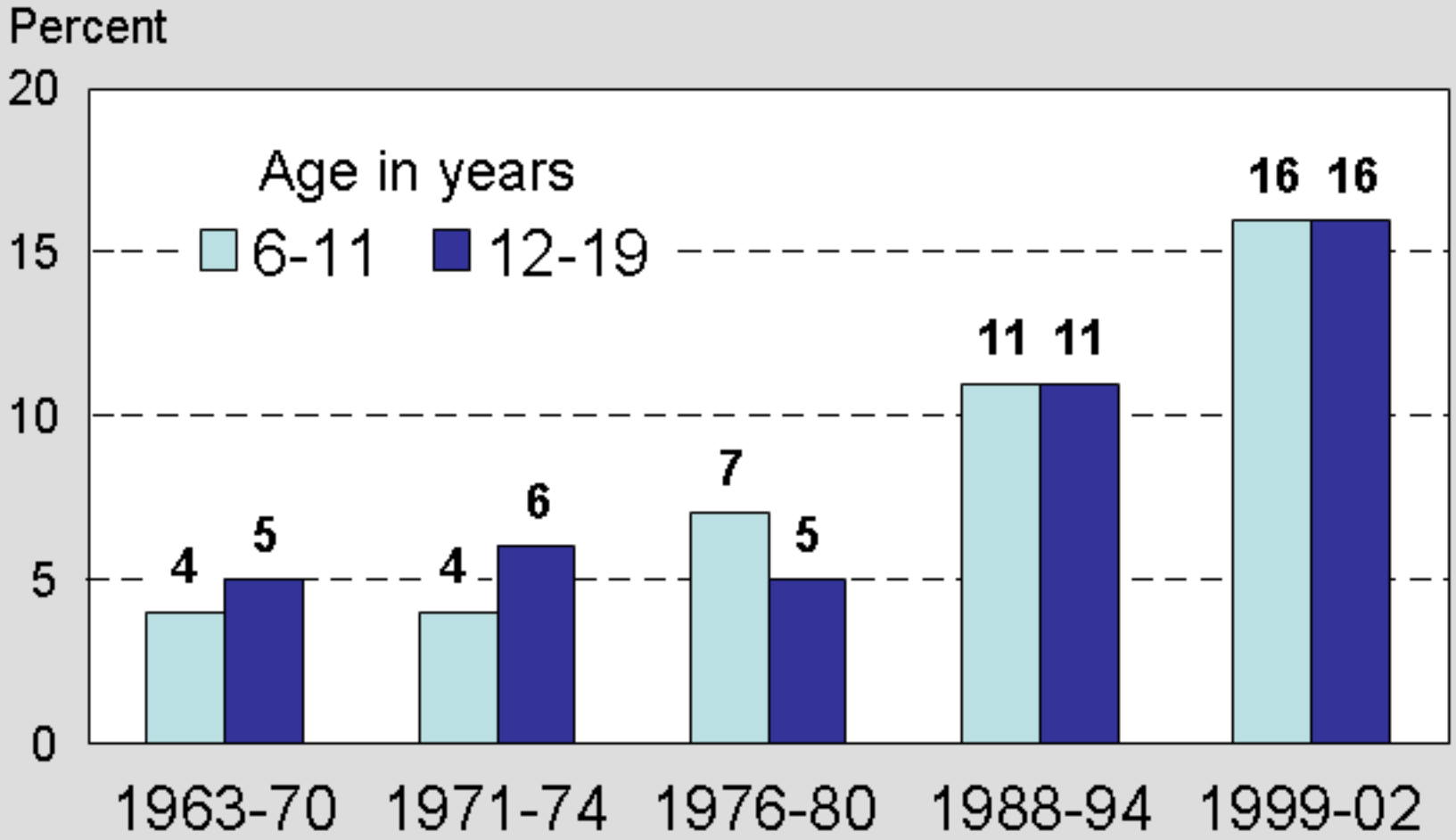
BRFSS, 2004

(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)



No Data | <10% | 10%–14% | 15%–19% | 20%–24% | ≥25%

Figure 1. Prevalence of overweight among children and adolescents ages 6-19 years



NOTE: Excludes pregnant women starting with 1971-74. Pregnancy status not available for 1963-65 and 1966-70. Data for 1963-65 are for children 6-11 years of age; data for 1966-70 are for adolescents 12-17 years of age, not 12-19 years.
SOURCE: CDC/NCHS, NHES and NHANES


Newsweek
SMACKDOWN
SAINTLY POPES
DIAB
It Strikes 16 Million Americans
Are You at Risk?
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
Heredity

The Atlanta Journal-Constitution / Sunday, June 15, 2003

CDC: Diabetes to afflict 1 in 3 born in 2000

Scientist says kids must eat healthier, exercise more

By JANET McCONNAUGHEY
Associated Press

New Orleans — One in three U.S. children born in 2000 will become diabetic unless many more people start eating less and exercising more, a scientist with the Centers for Disease Control and Prevention warned Saturday.

The odds are worse for African-American and Latino children: Nearly half of them are likely to develop the disease, said Dr. K.M. Venkat Narayan, a diabetes epidemiologist at the CDC.

"I think the fact that the diabetes epidemic has been raging has been well-known to us for several years. But looking at the risk in these terms was very shocking to us," Narayan said.

The 33 percent lifetime risk is about triple the American Diabetes Association's current estimate.

by 2050, to 29 million, an earlier CDC study by Narayan and others found.

"These estimates I am giving you now are probably quite conservative," Narayan said in an interview before the diabetes association's annual scientific meeting here.

Narayan said it would be difficult to say whether undiagnosed cases would rise at the same rate.

If they did, that could push the 2050 figure to 40 million or more.

Doctors had known for some time that Type 2 diabetes — what used to be called adult-onset diabetes because it typically showed up in middle-aged people — is on the rise, and that patients are getting younger.

Nobody else had crunched the numbers to look at current odds of getting the disease, Narayan said.

Overall, he said, 39 percent of the girls who now are healthy 2½- to 3-year-olds and 33 percent of the boys are likely to develop diabetes, he said.

For Latino children, the odds are closer to one in two: 53 percent of the girls and 45 percent of the boys. The numbers are about 49 percent and 40 percent for African-American girls

The NEW ENGLAND JOURNAL of MEDICINE

SPECIAL REPORT

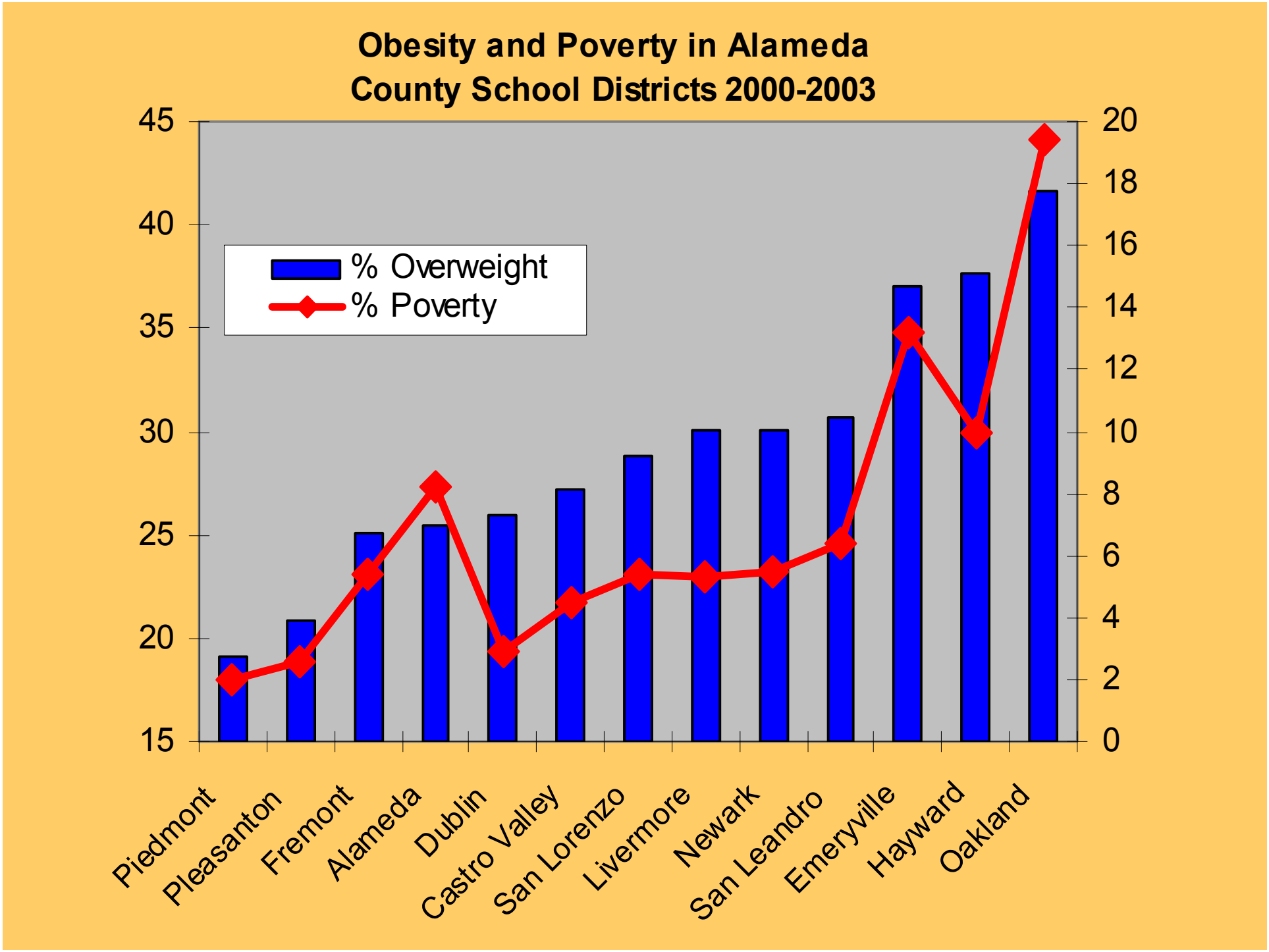
Volume 352:1138-1145 March 17, 2005 Number 11

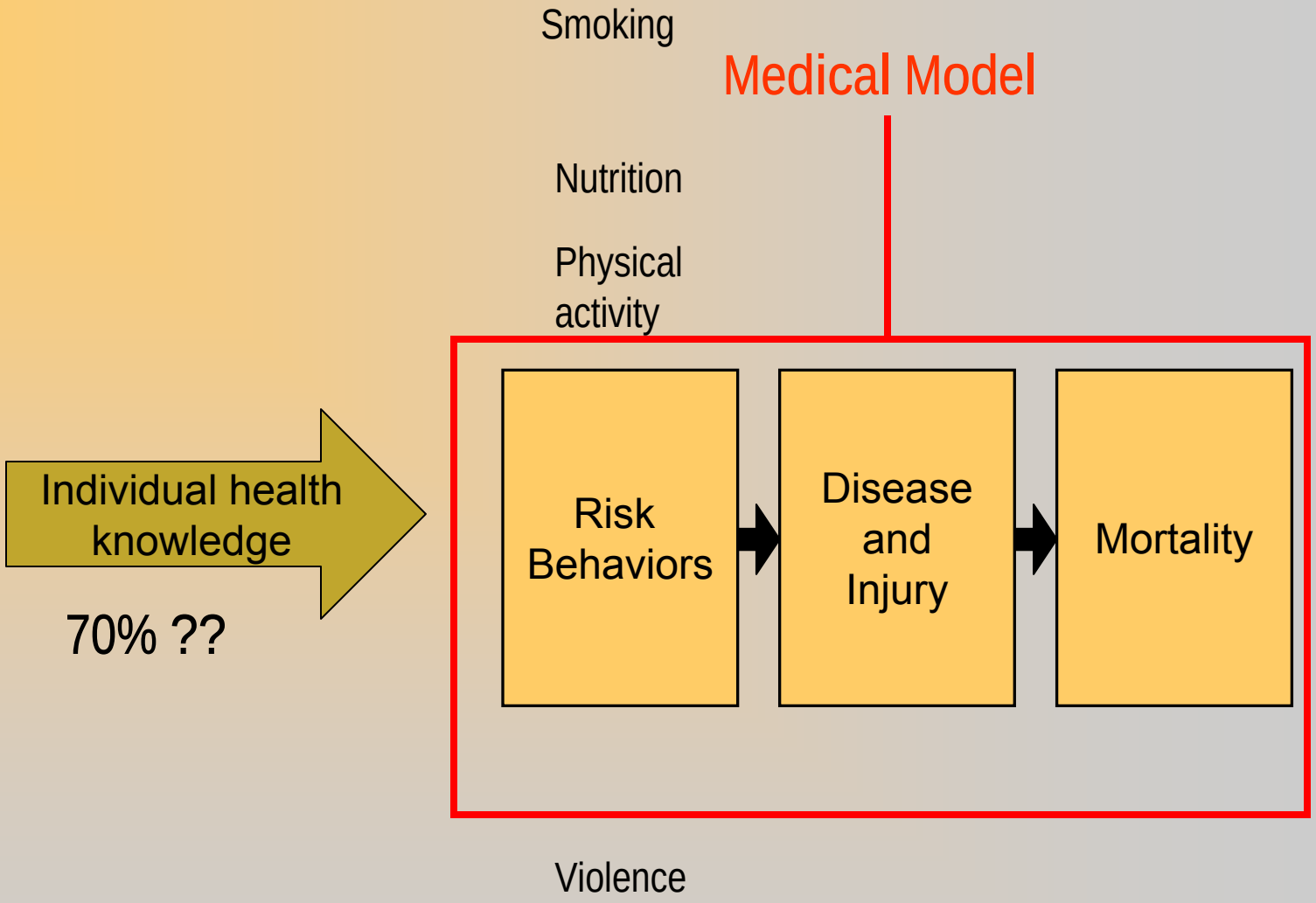
A Potential Decline in Life Expectancy in the United States in the 21st Century

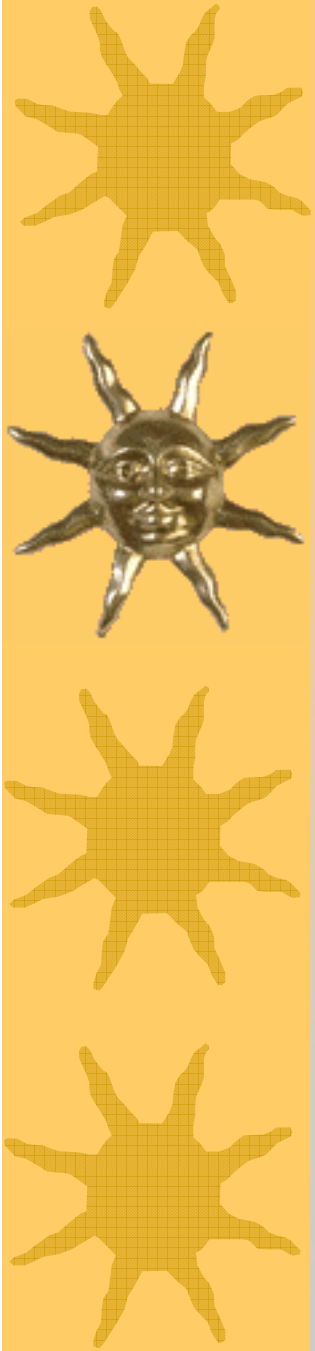
S. Jay Olshansky, Ph.D., Douglas J. Passaro, M.D., Ronald C. Hershow, M.D., Jennifer Layden, M.P.H., Bruce A. Carnes, Ph.D., Jacob Brody, M.D., Leonard Hayflick, Ph.D., Robert N. Butler, M.D., David B. Allison, Ph.D., and David S. Ludwig, M.D., Ph.D.

ABSTRACT

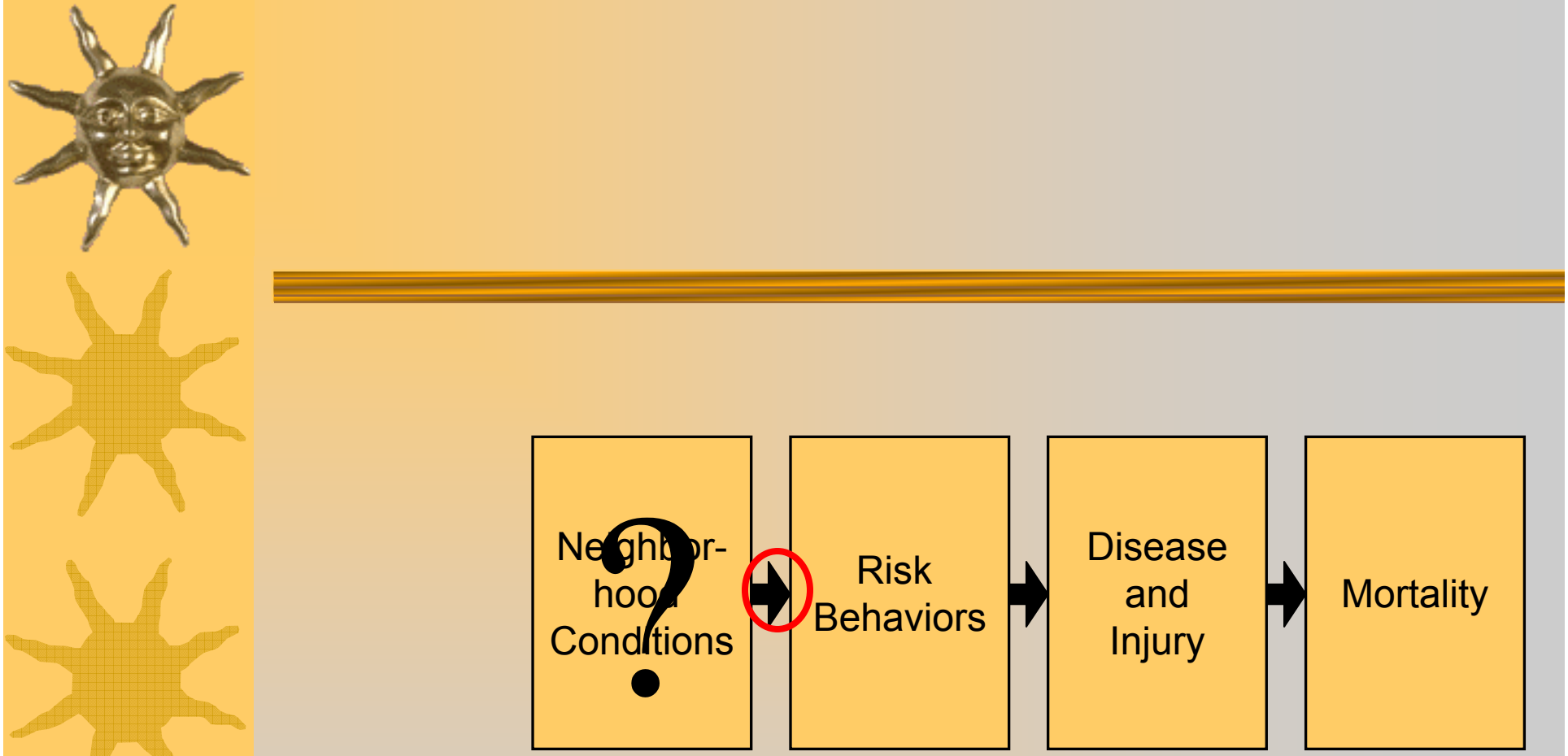
Forecasts of life expectancy are an important component of public policy that influence age-based entitlement programs such as Social Security and Medicare. *Although the Social Security Administration recently raised its estimates of how long Americans are going to live in the 21st century, current trends in obesity in the United States suggest that these estimates may not be accurate. From our analysis of the effect of obesity on longevity, we conclude that the steady rise in life expectancy during the past two centuries may soon come to an end.*


Obesity and Poverty in Alameda County School Districts 2000-2003
45
40
35
30
25
20
15
20
18
16
14
12
10
8
6
4
2
0
% Overweight
% Poverty
Piedmont
Pleasanton
Fremont
Alameda
Dublin
Castro Valley
San Lorenzo
Livermore
Newark
San Leandro
Emeryville
Hayward
Oakland


Smoking
Medical Model
Nutrition
Physical activity
Individual health knowledge
70% ??
Risk Behaviors
Disease and Injury
Mortality
Violence



What About The Environment?


Neighbor-
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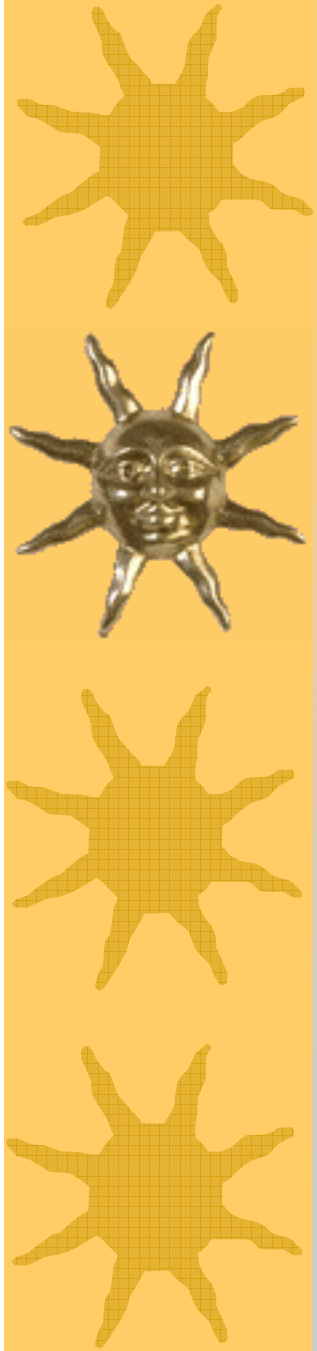
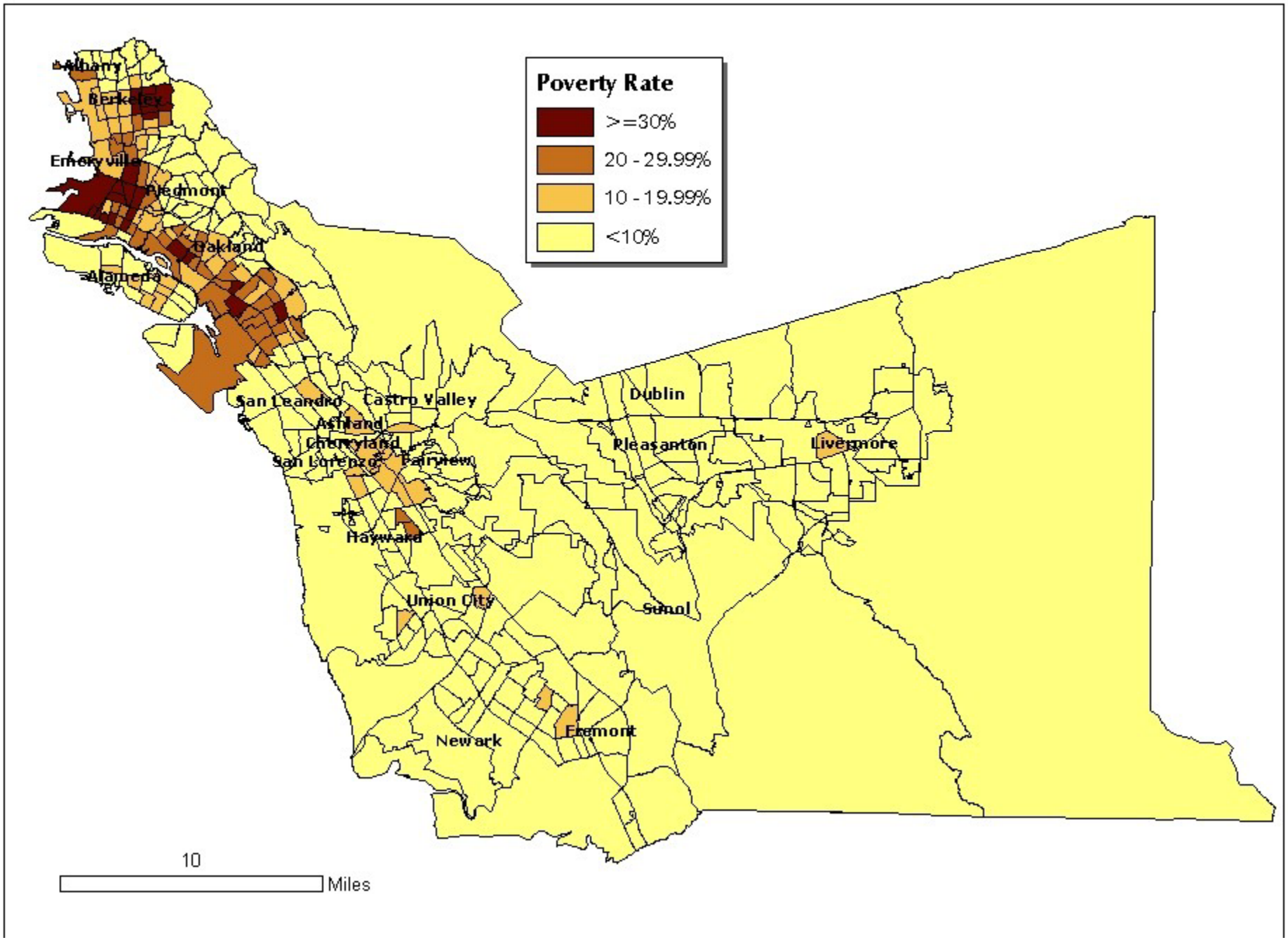
Conditions
?
Risk
Behaviors
Disease
and
Injury
Mortality

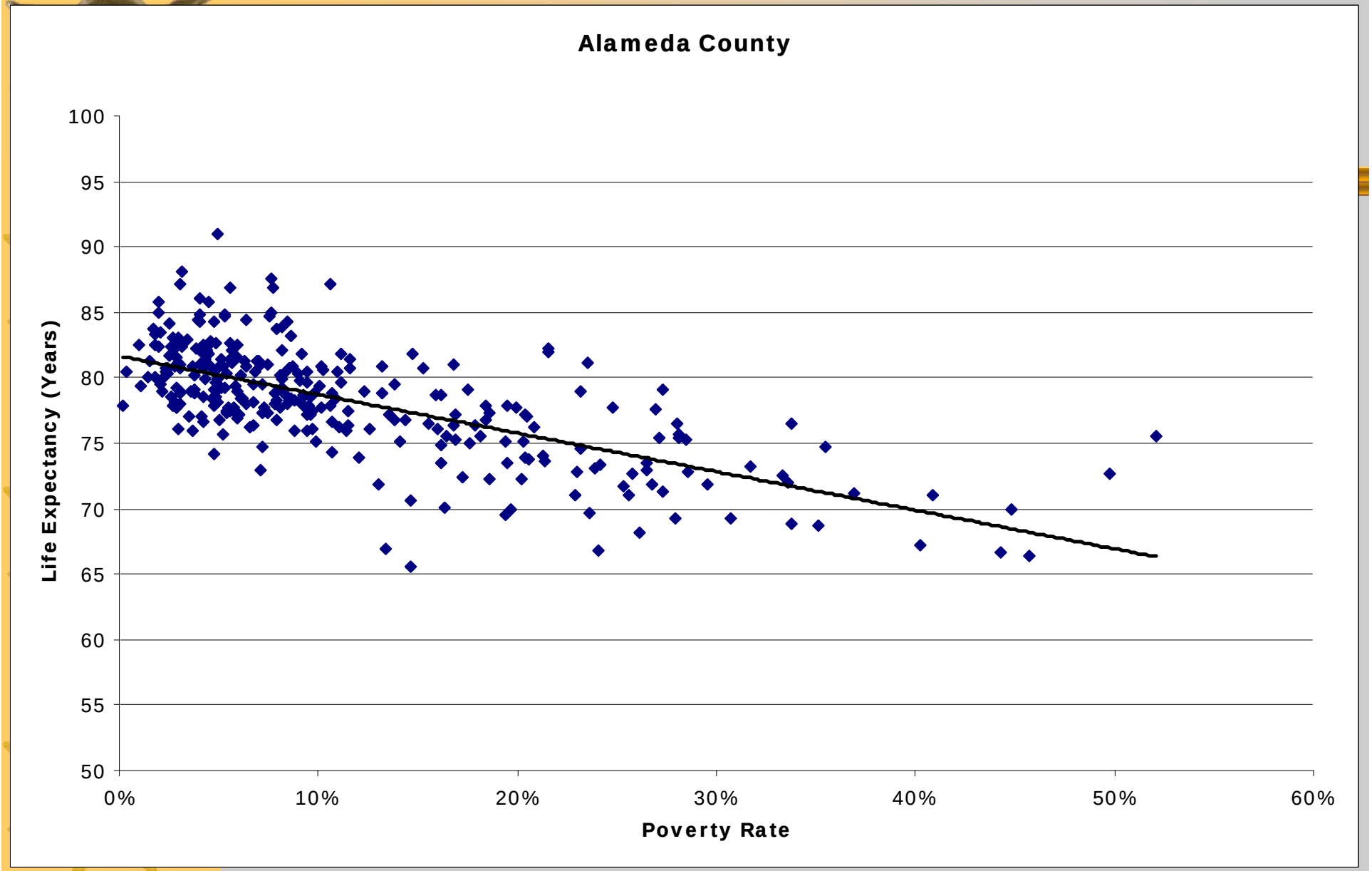


Community Trajectories

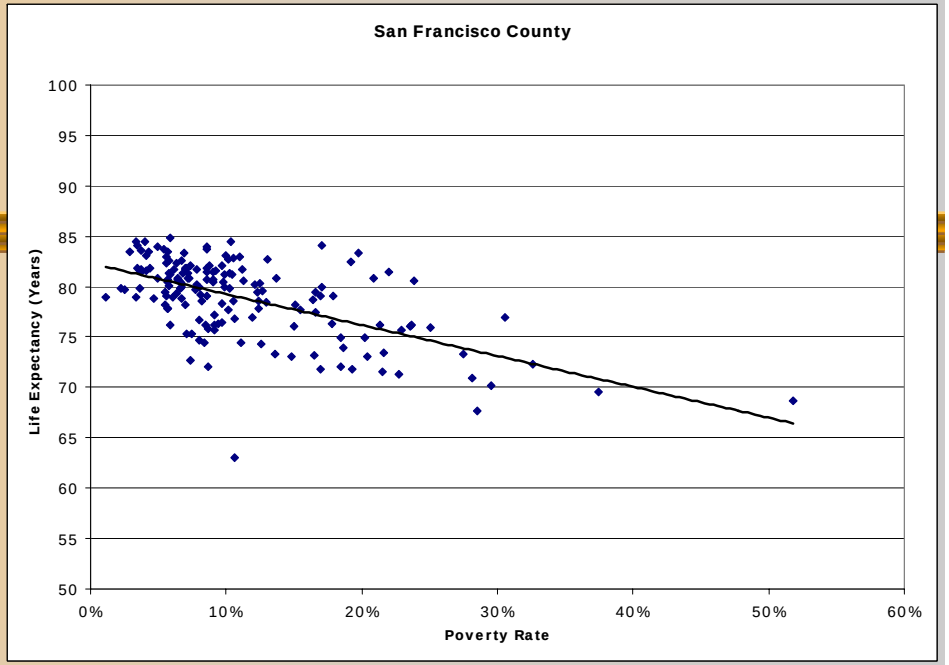
How Much Does *Place* Matter?

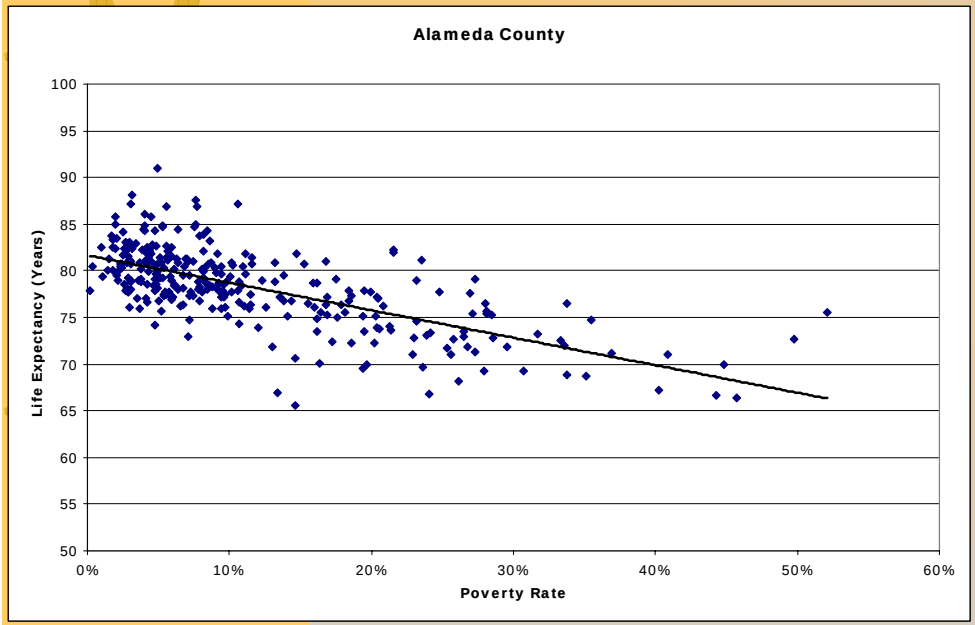
Alameda County Poverty

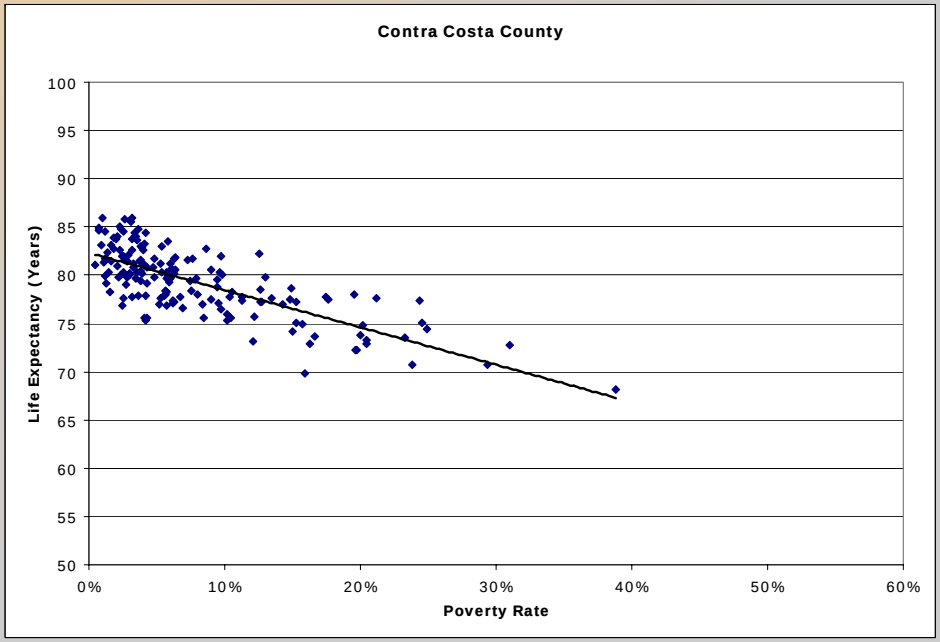



Alameda County
Life Expectancy (Years)
100
95
90
85
80
75
70
65
60
55
50
0%
10%
20%
30%
40%
50%
60%
Poverty Rate

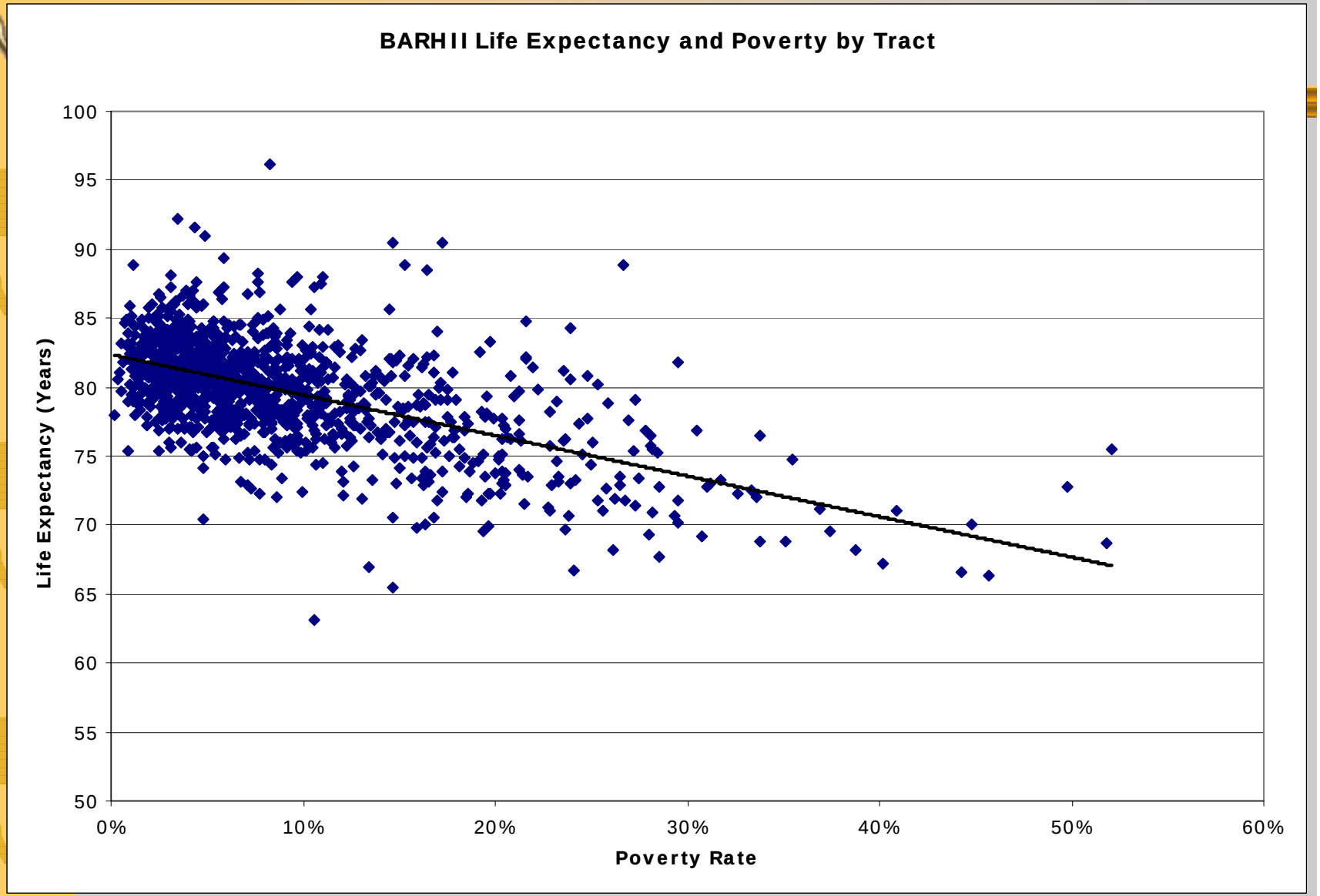
Tract Poverty vs. Life Expectancy



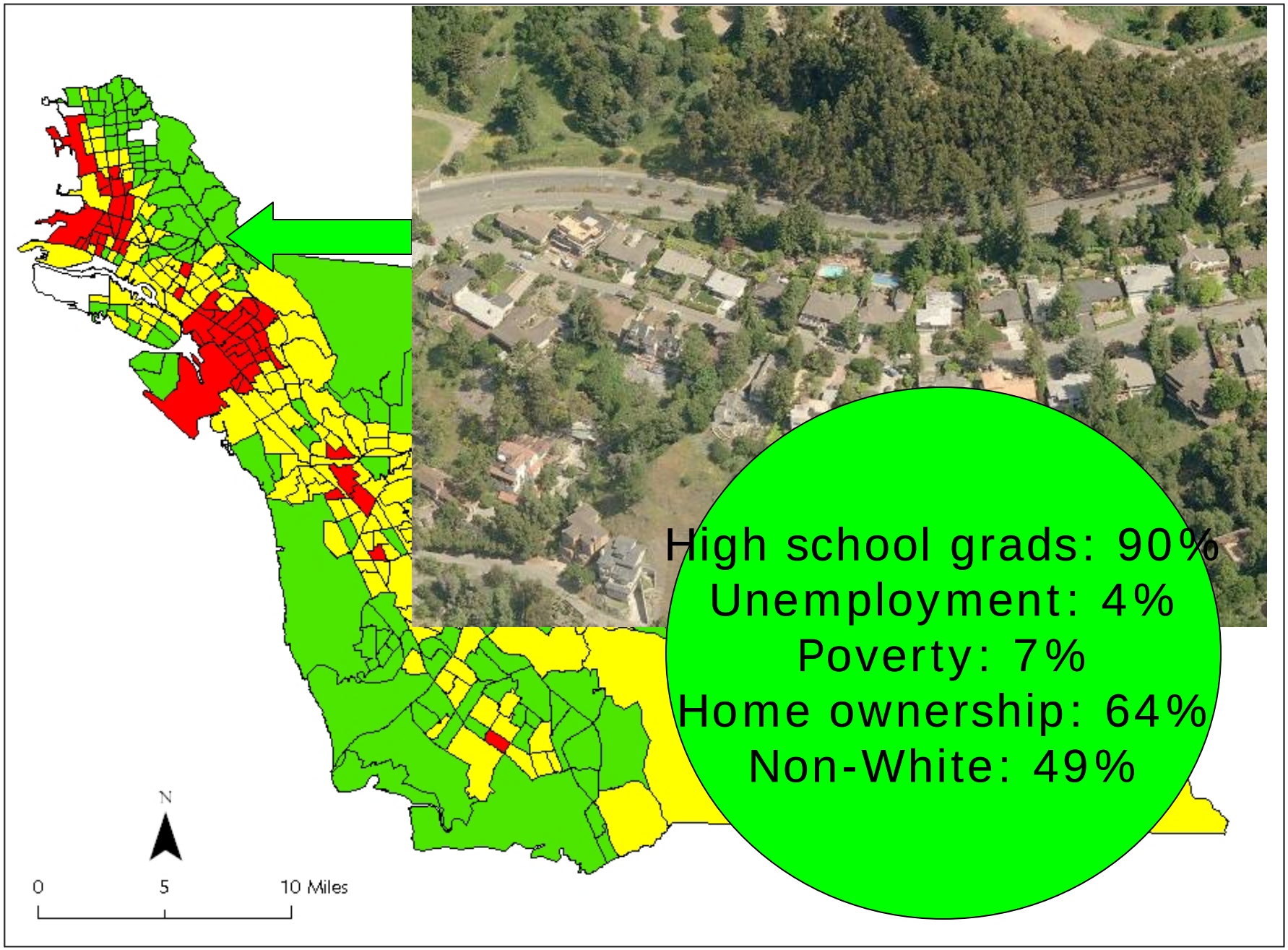




Bay Area Poverty vs. Life Expectancy

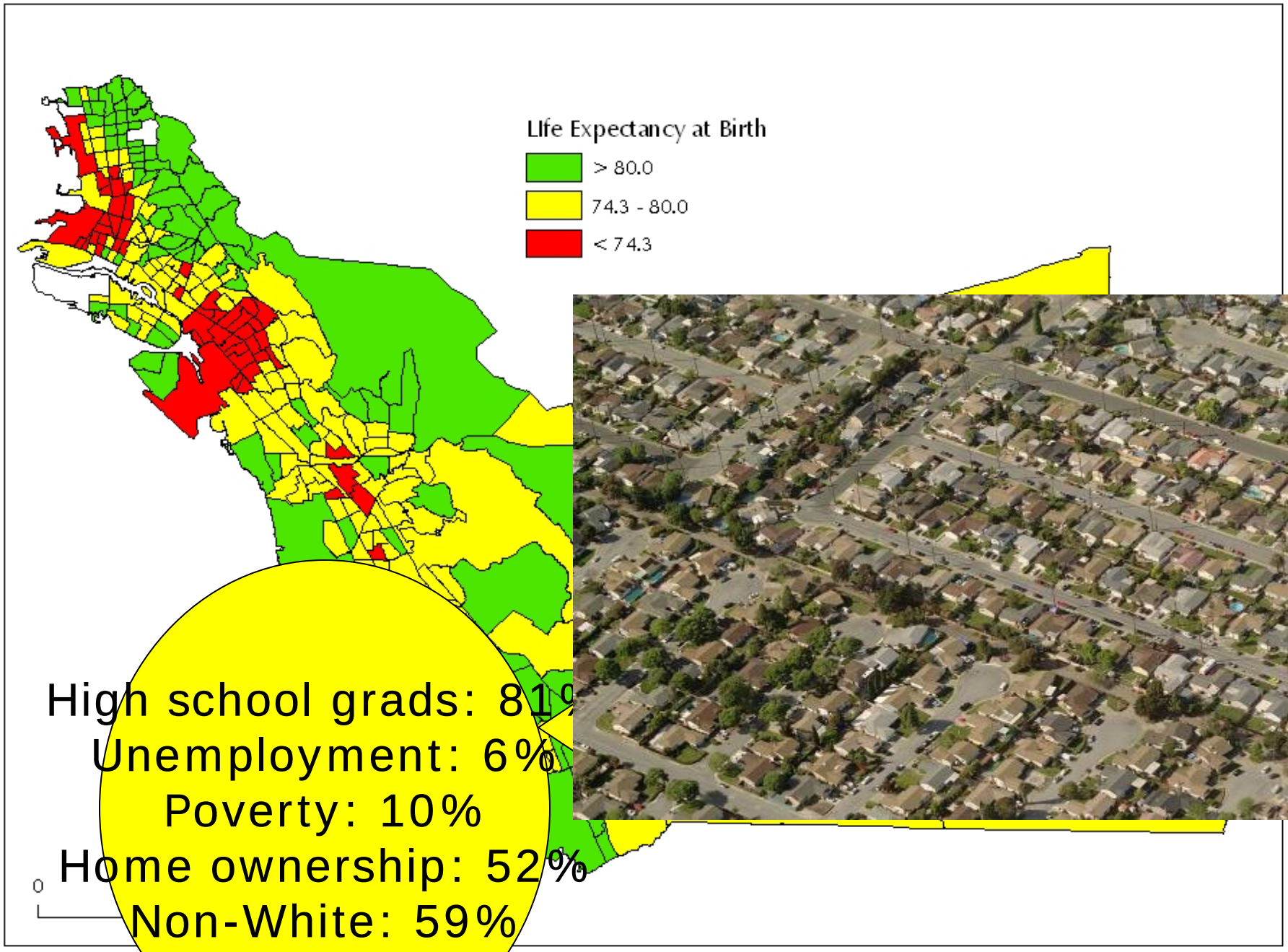


Life Expectancy by Tract



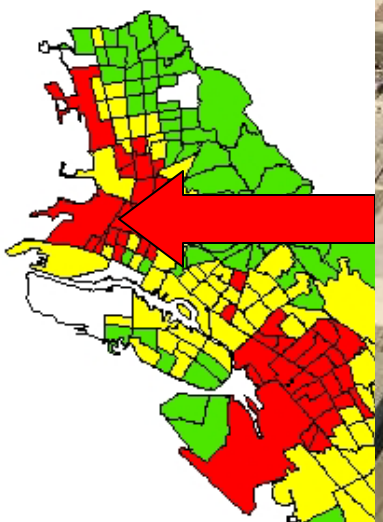
Source: CAPE, with data from vital statistics 1999-2001.

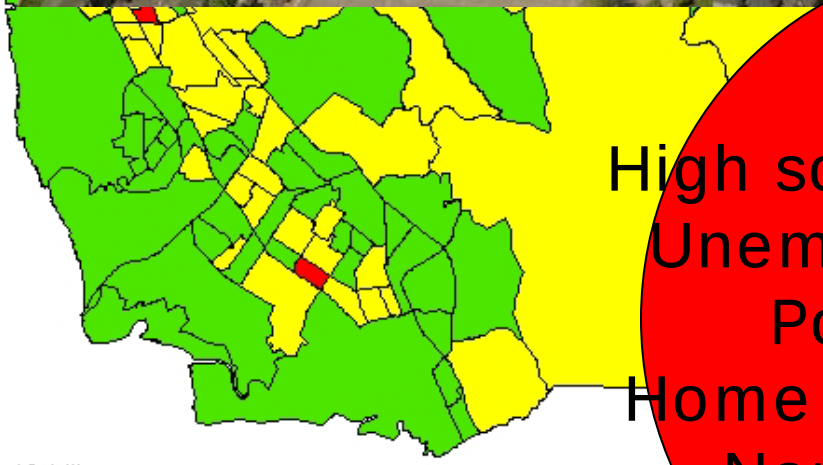
Life Expectancy by Tract

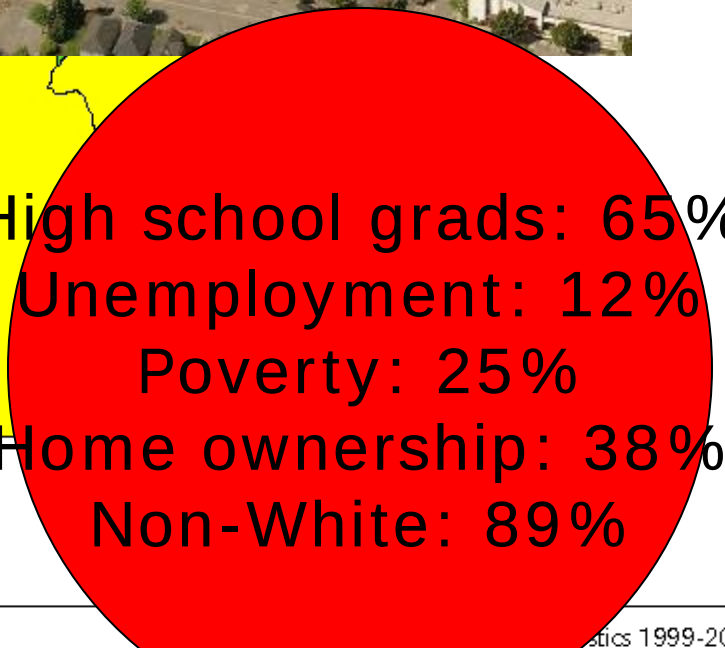


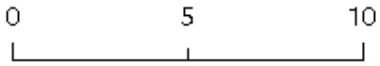
Source: CAPE, with data from vital statistics 1999-2001.

Life Expectanc

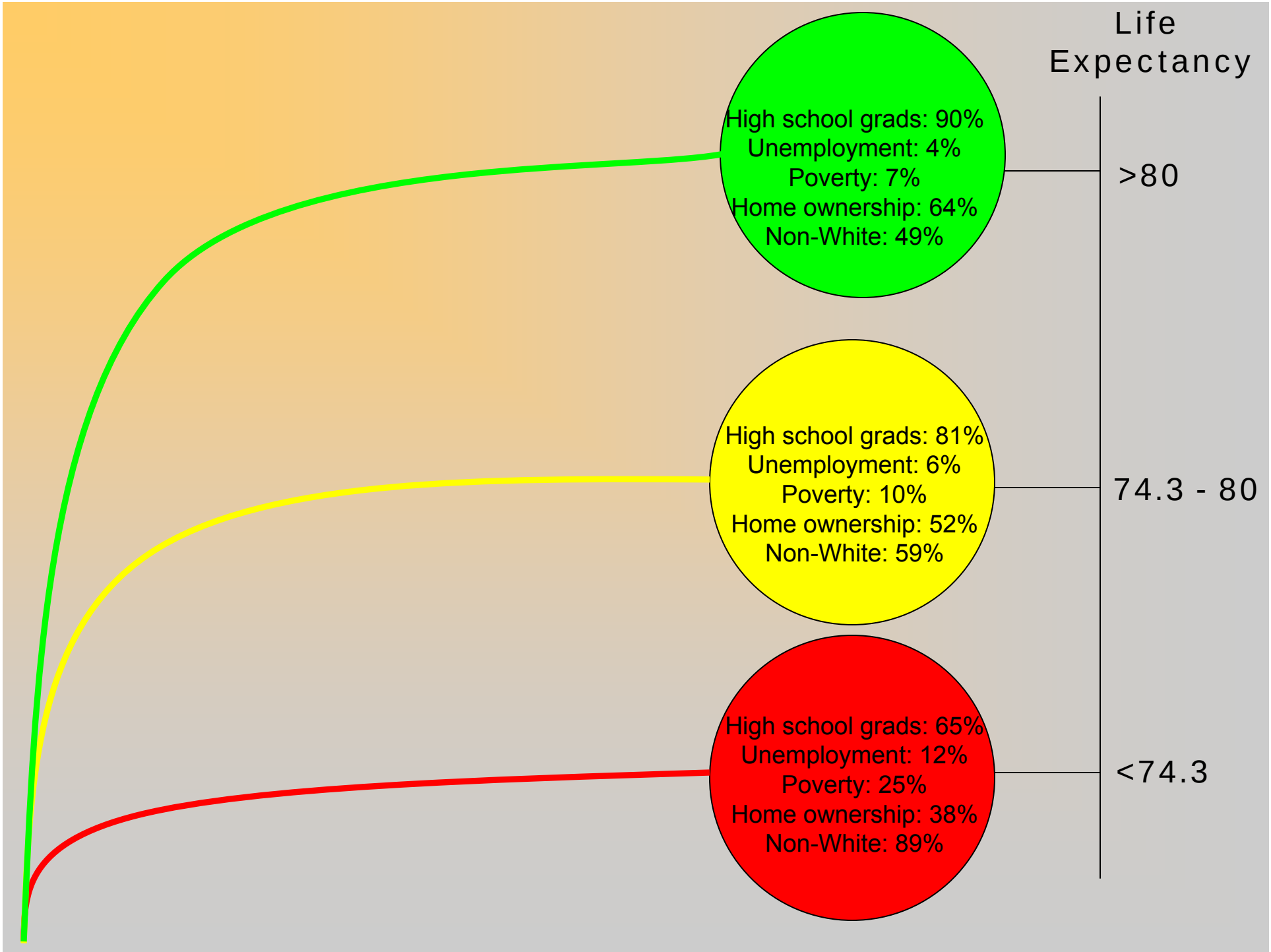




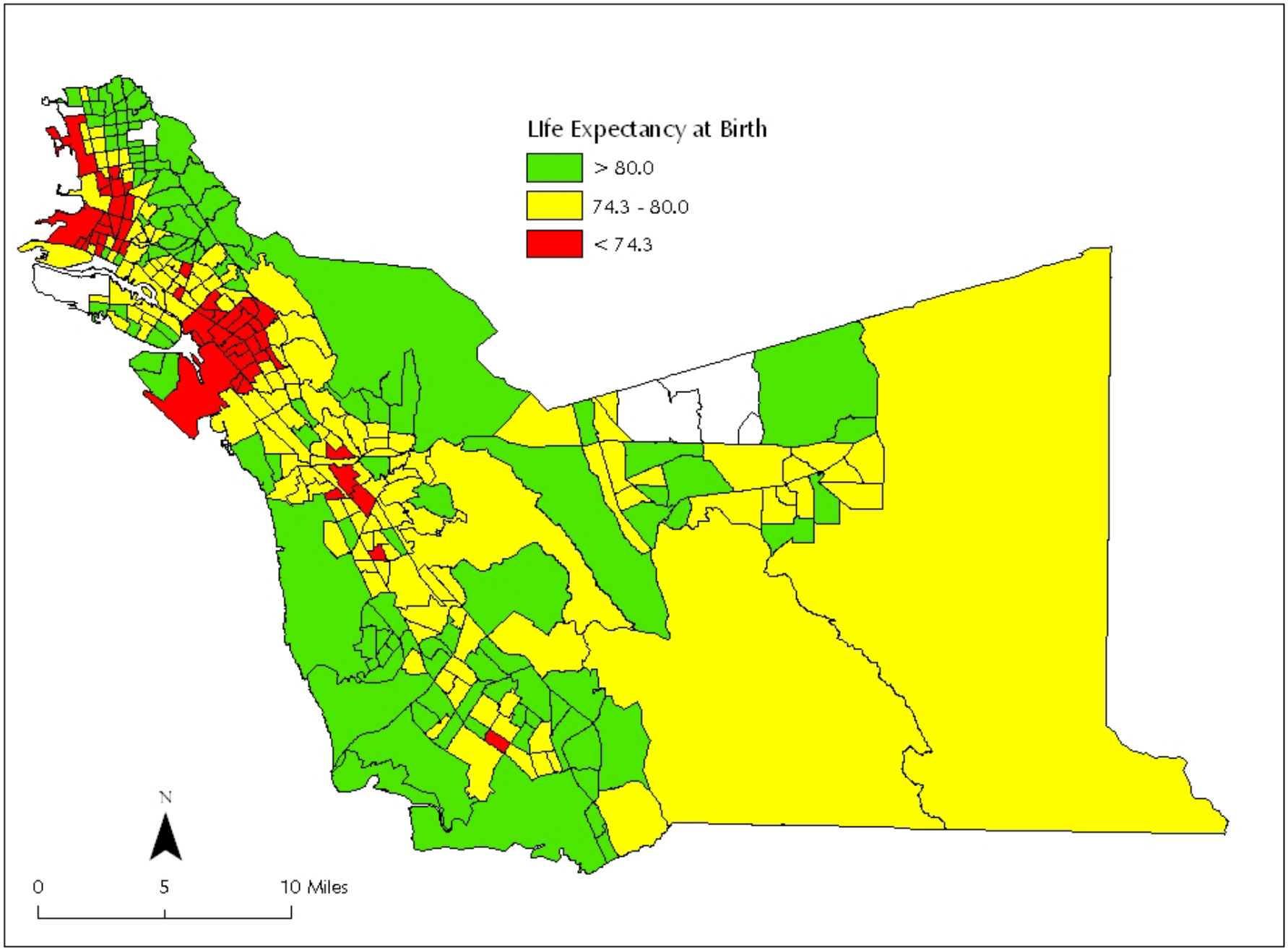




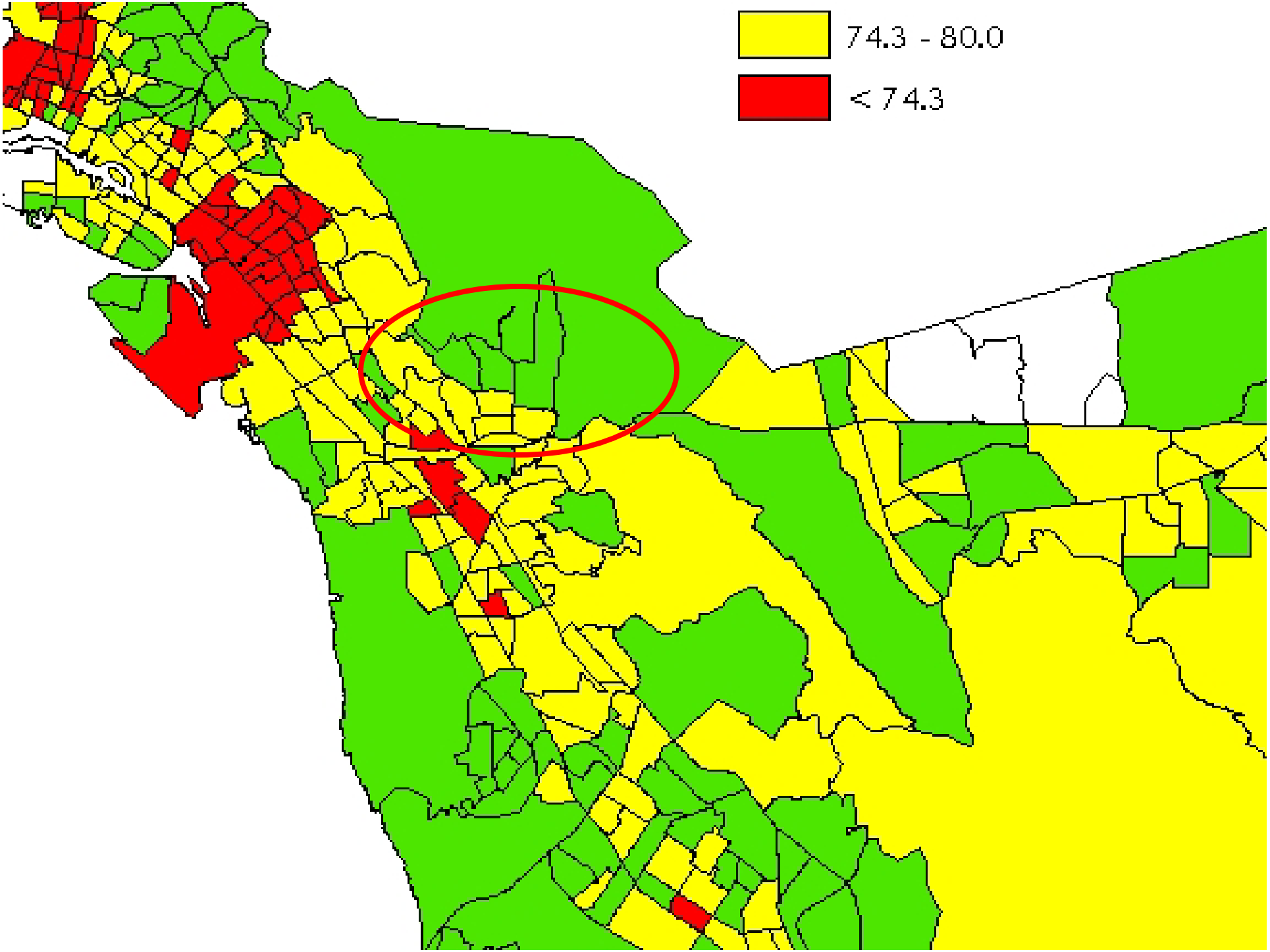
stics 1999-2001.


Life Expectancy
High school grads: 90%
Unemployment: 4%
Poverty: 7%
Home ownership: 64%
Non-White: 49%
>80
High school grads: 81%
Unemployment: 6%
Poverty: 10%
Home ownership: 52%
Non-White: 59%
74.3 - 80
High school grads: 65%
Unemployment: 12%
Poverty: 25%
Home ownership: 38%
Non-White: 89%
<74.3

Life Expectancy by Tract



Source: CAPE, with data from vital statistics 1999-2001.


74.3 - 80.0
< 74.3

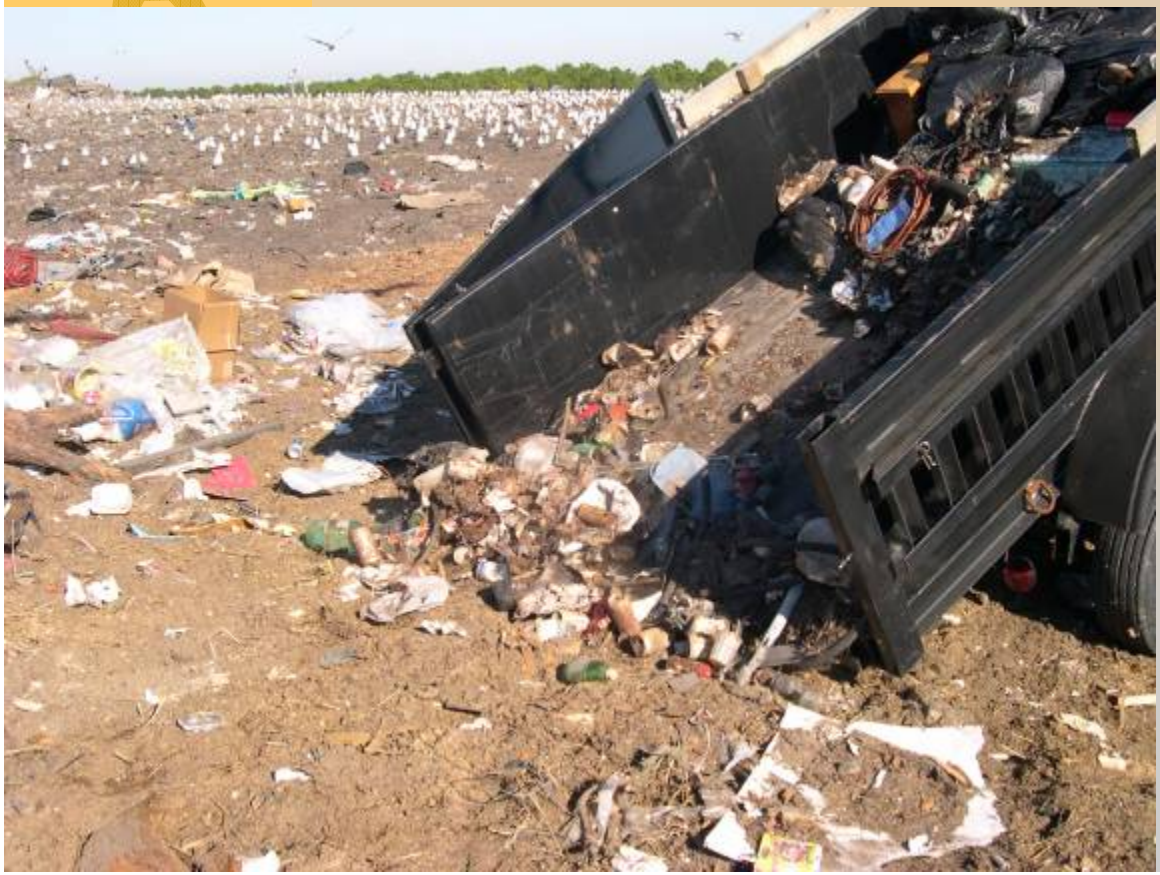
Neighborhood Context

- Parks & recreational space
- Walkability, bikeability
- Access to amenities
- Concentration of alcohol outlets, fast food
- Housing stock
- Point sources of pollution
- Jobs


Perfect when you're
toasting this summer.
Please enjoy your summer responsibly.
VIACOM


Marlboro
ELLER

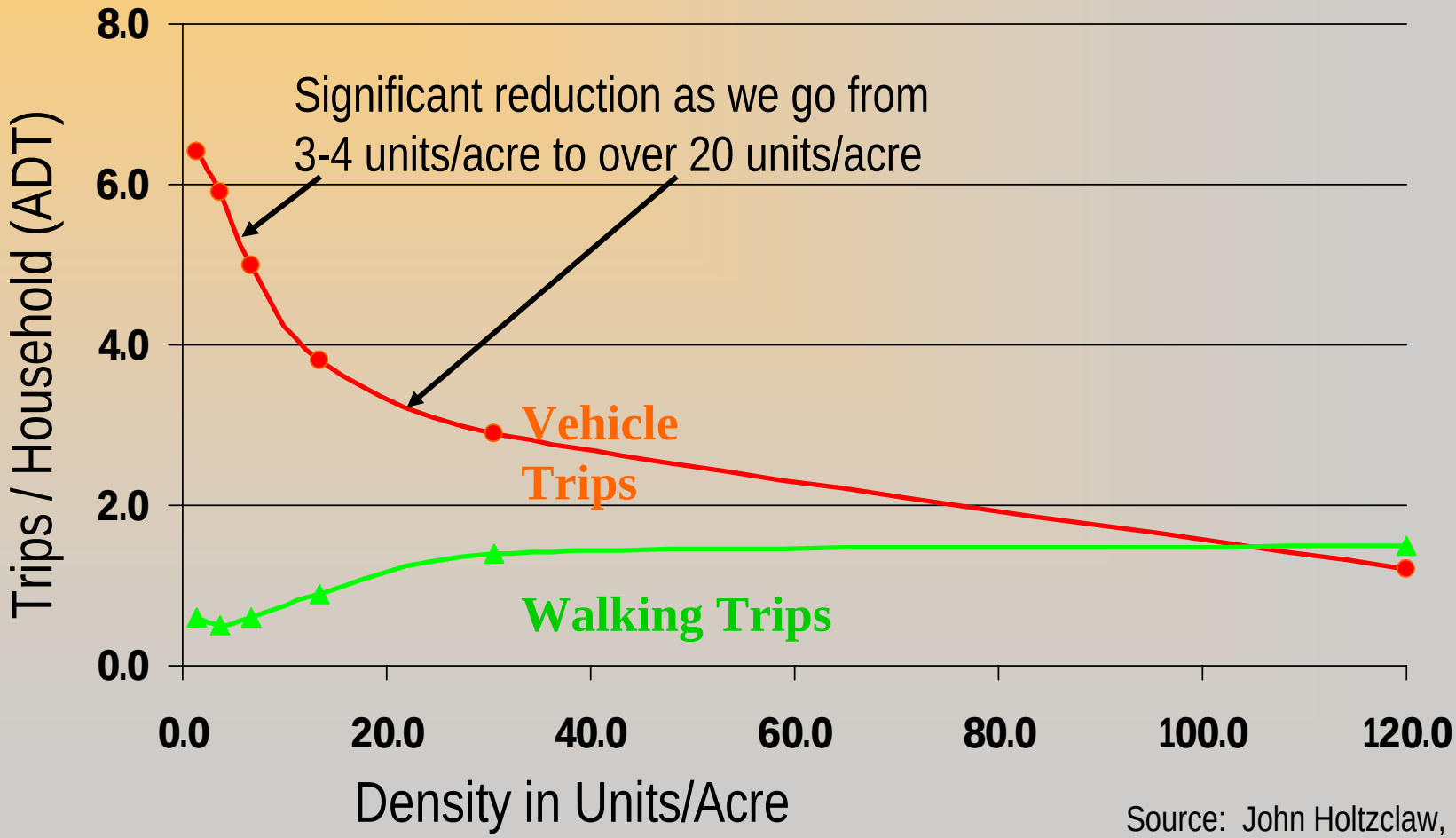

Pollo
ALITAS
PIERNAS
PIERNITAS
Budweiser
$1.39
BOTE DE 24oz
Miller Lite
12Pk Cans
$8.99
24oz. Cans
1.39
2325 Budweiser
12 PACK
CAN
8.99
+ CRV & TAX



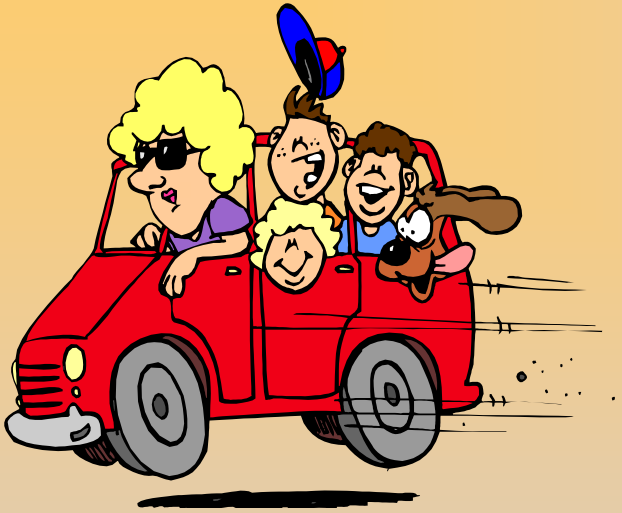
Street Networks — Summary of the Literature

- Poor network connectivity reduces pedestrian mobility and trips
- As the number of intersections and blocks increase the number of walk trips increase
- As the number of cul-de-sacs and loops increase the number of walk trips decrease

Land Use Pattern Affects Travel —Higher Density can reduce Vehicle Trips



Source: John Holtzclaw, PhD, Sierra Club



Overall: Compared to 1969

Americans drive:

- **88% farther to shop**
- **137% farther for errands**

Mega-Mileage Moms

- **Family "chauffeur"**

- **Average minutes per day spent in car:**
  - **Women overall: 64 minutes**
  - **Single mothers: 75 minutes**

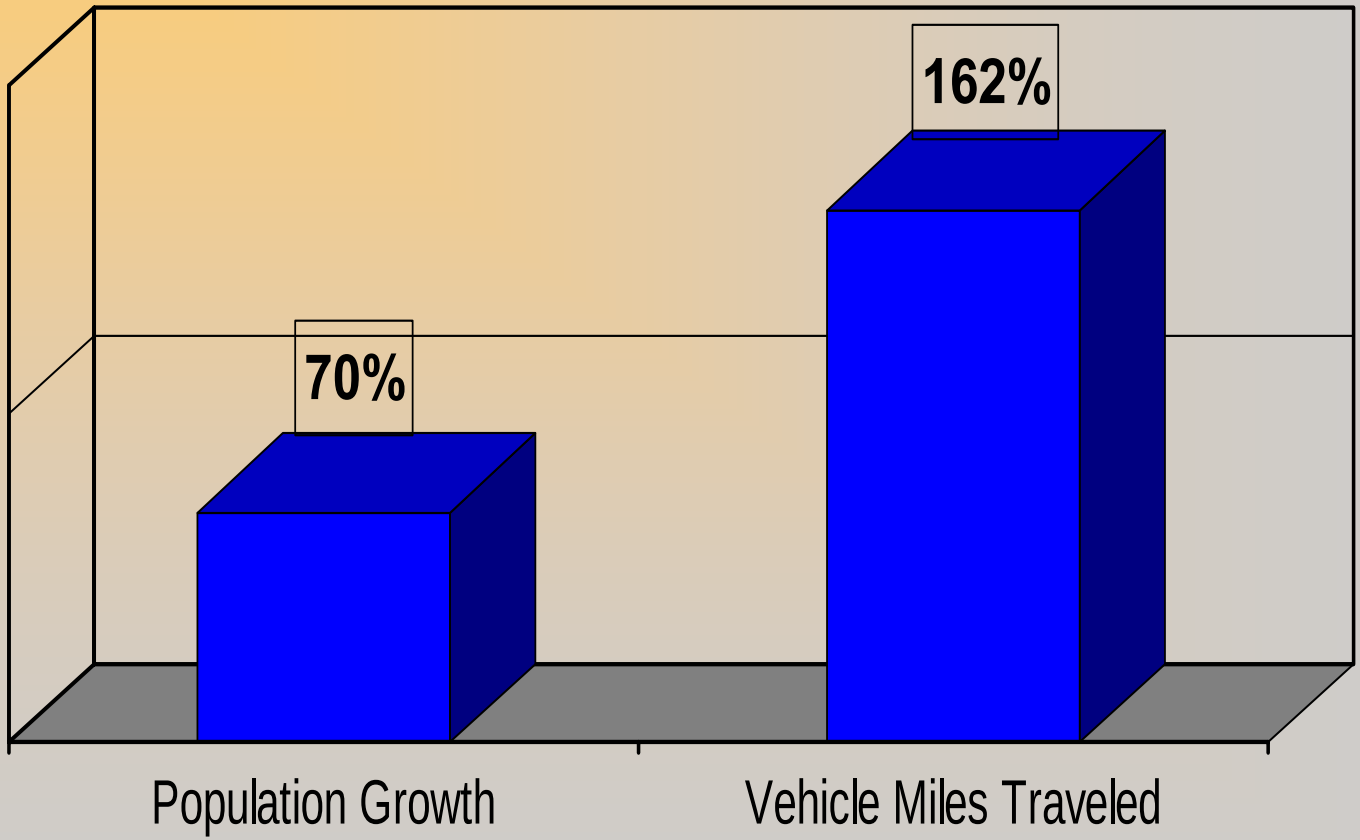
Surface Transportation Policy Project: 2000

We have changed how much we walk or bike

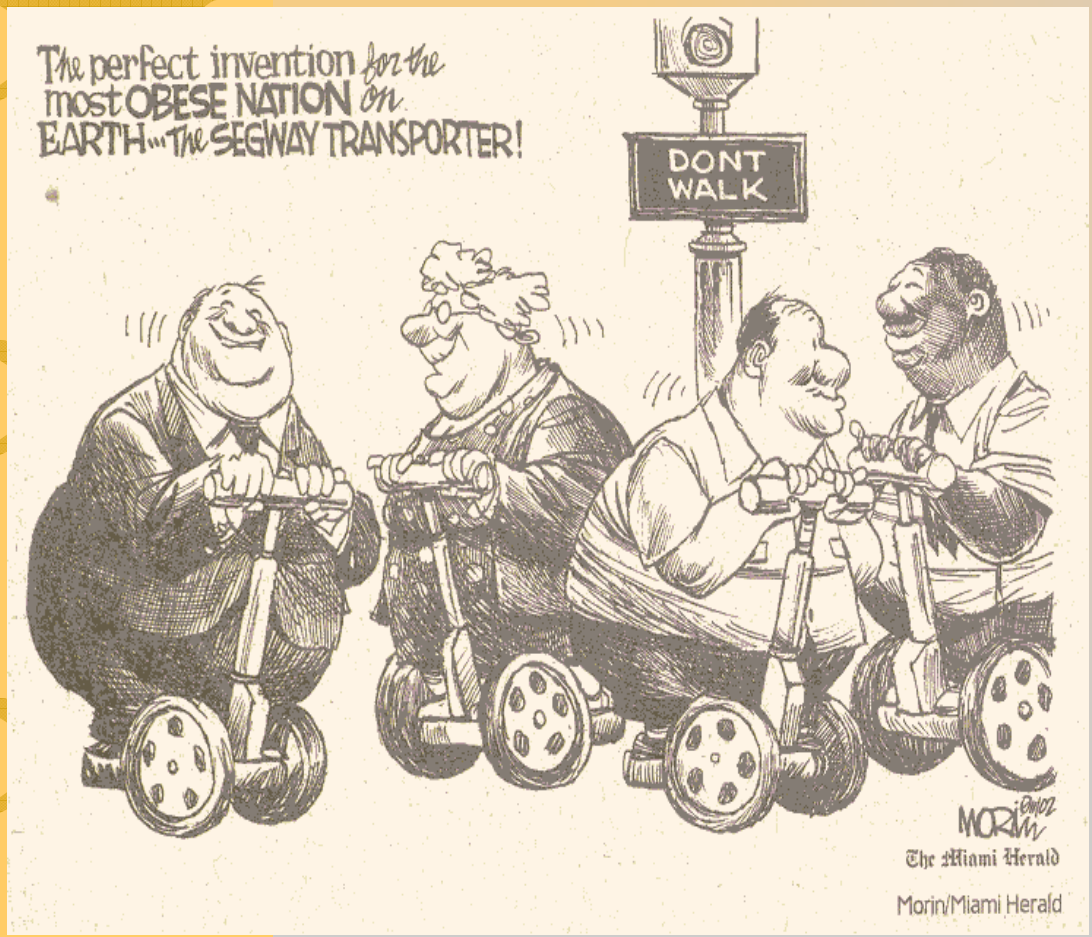
- Percent of children who walk or bike to school:
- 1974: **66%**
- 2000: **13%**

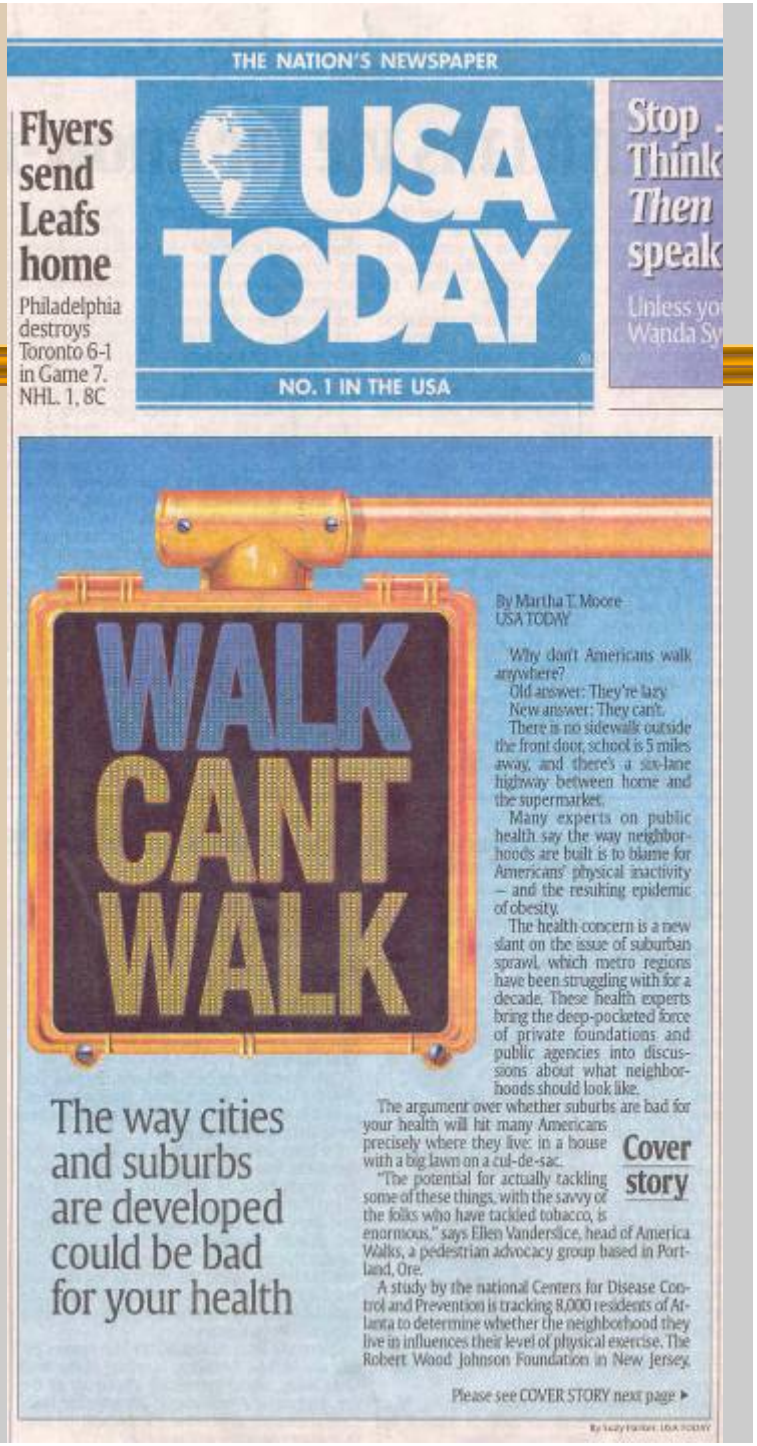
(CDC, 2000)

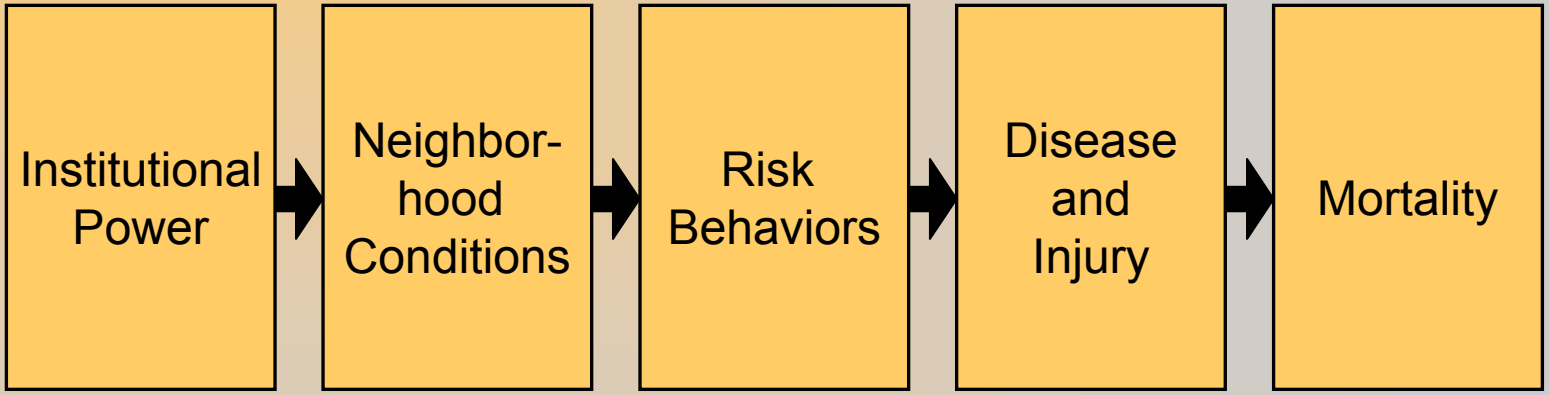
California Population Growth and Transportation — 1970-2000



New Awareness?






Institutional Power
Neighbor-hood Conditions
Risk Behaviors
Disease and Injury
Mortality

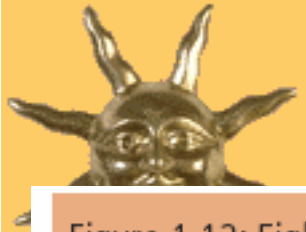
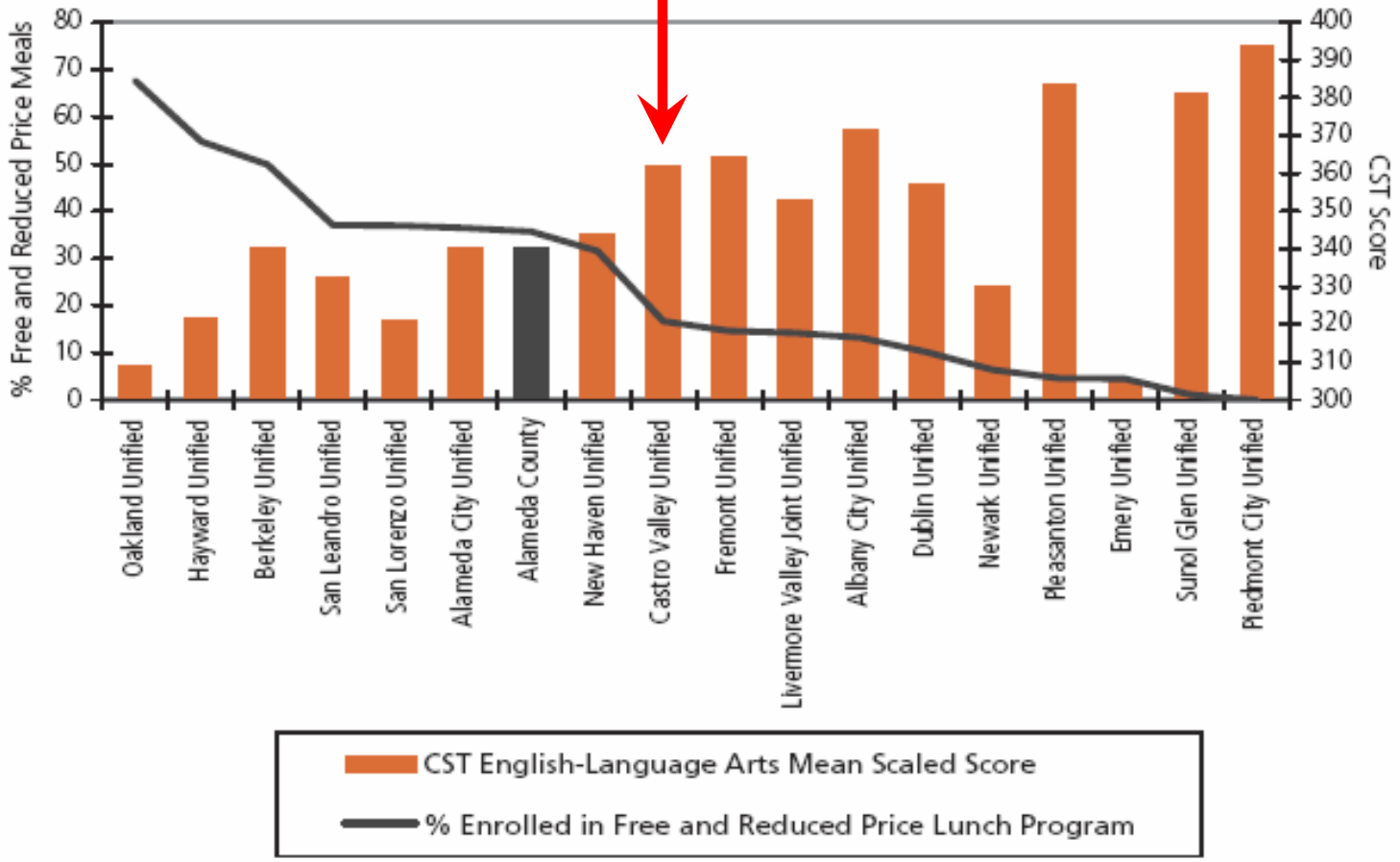
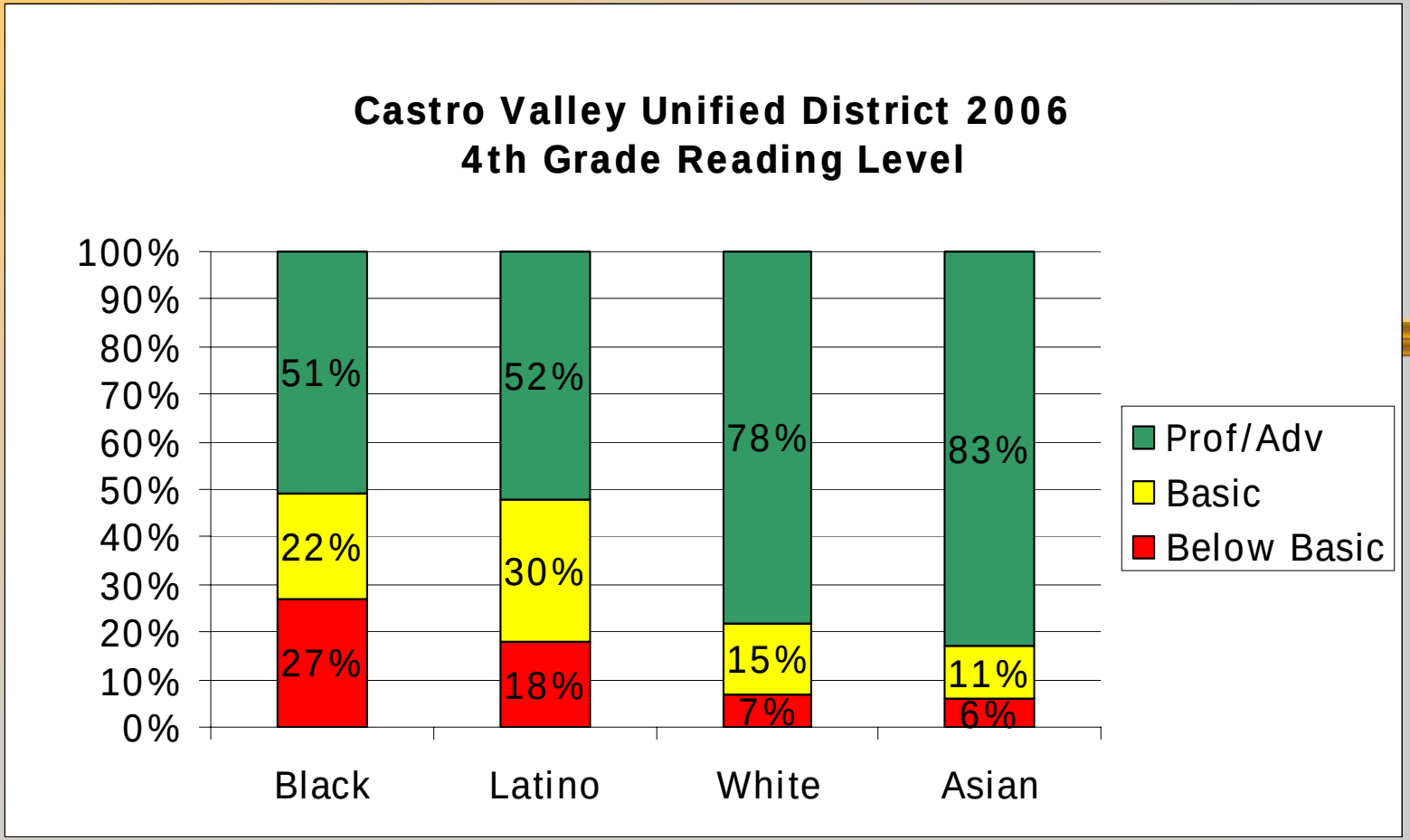


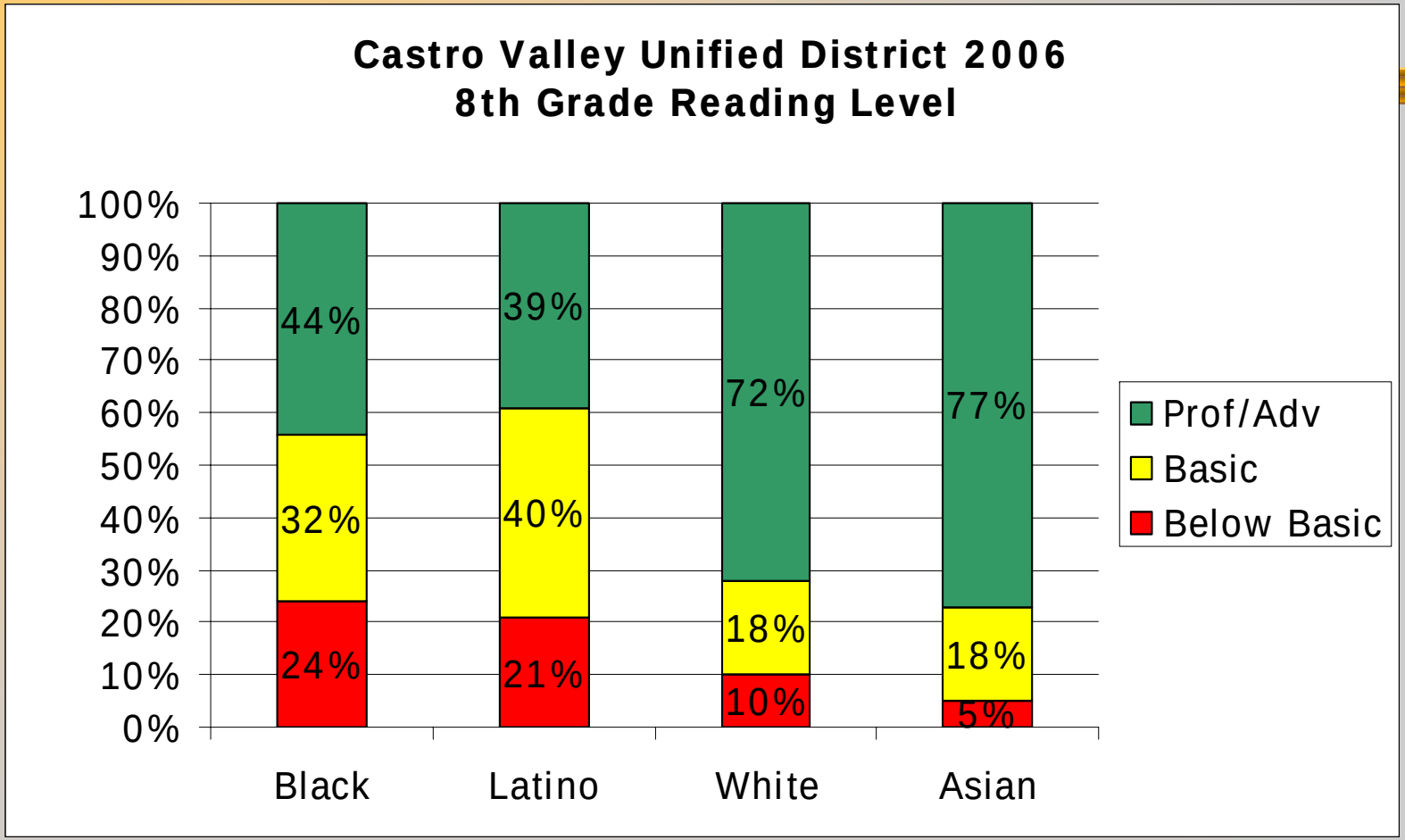
Figure 1.12: Eighth Grade CST Score 2004-2005 and Free and Reduced Price Lunch, 2003-2004, by School Districts



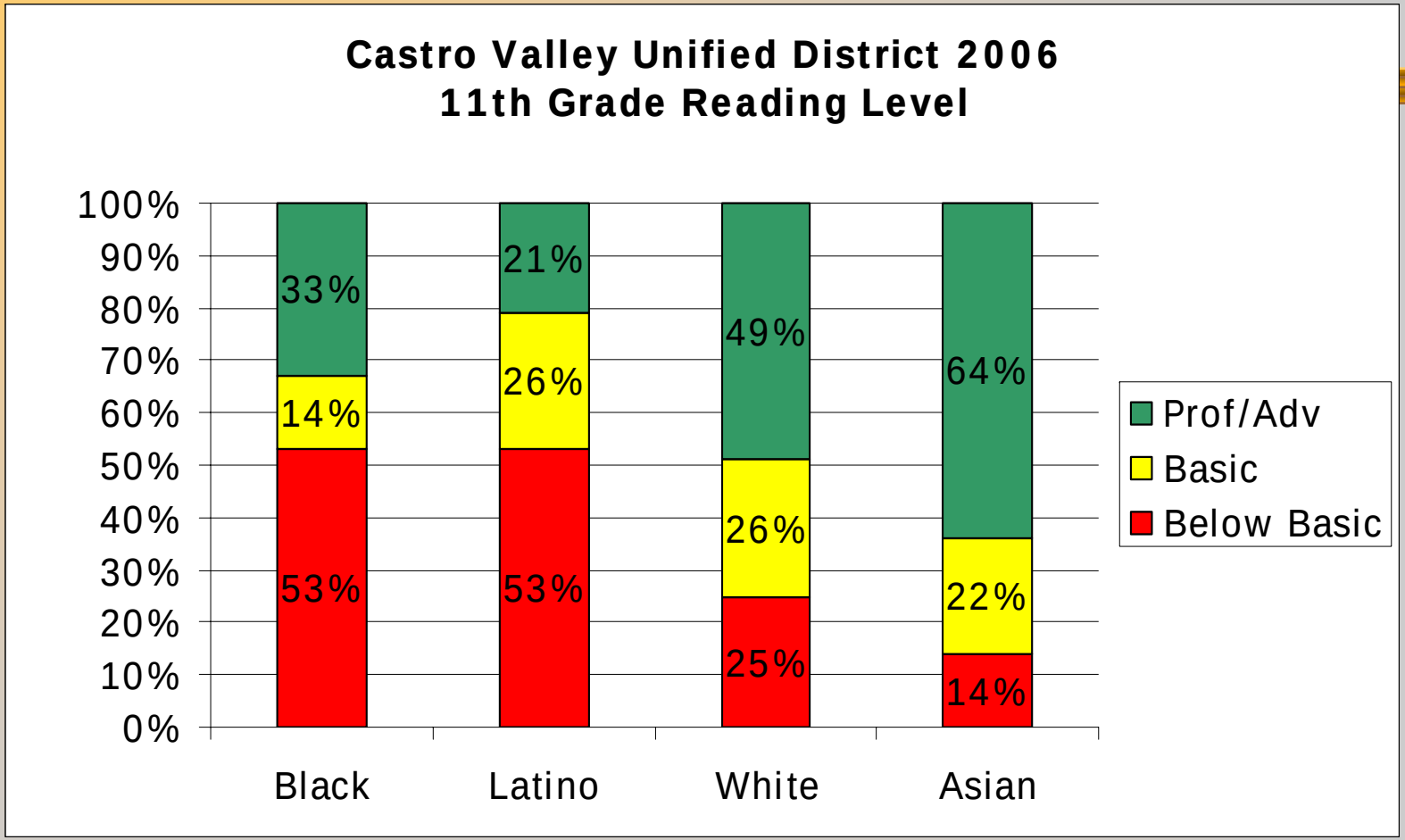
Source: CAPE; Dataquest and Ed-Data.



Source: California Department of Education, http://data1.cde.ca.gov/dataquest/



Source: California Department of Education, http://data1.cde.ca.gov/dataquest/



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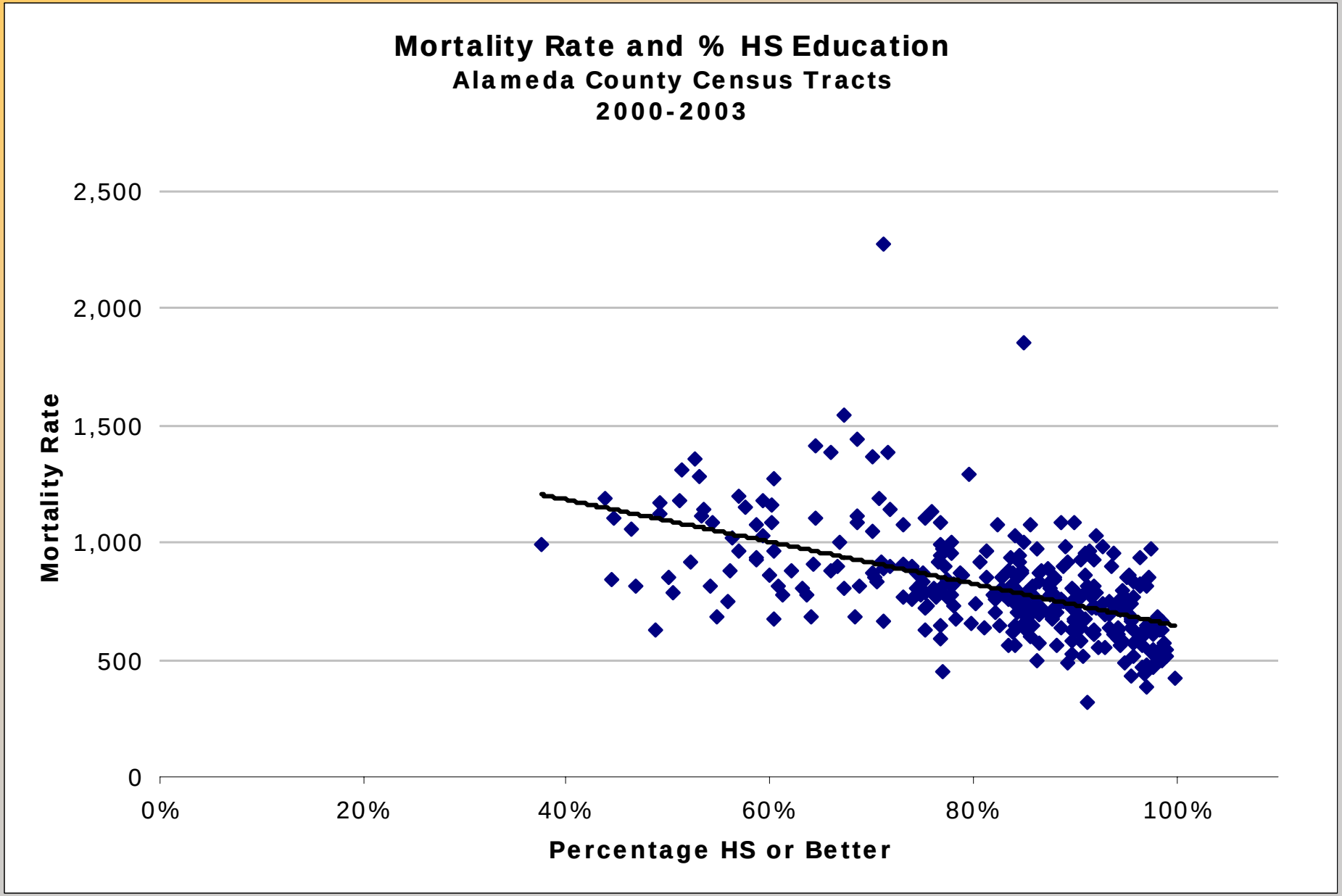
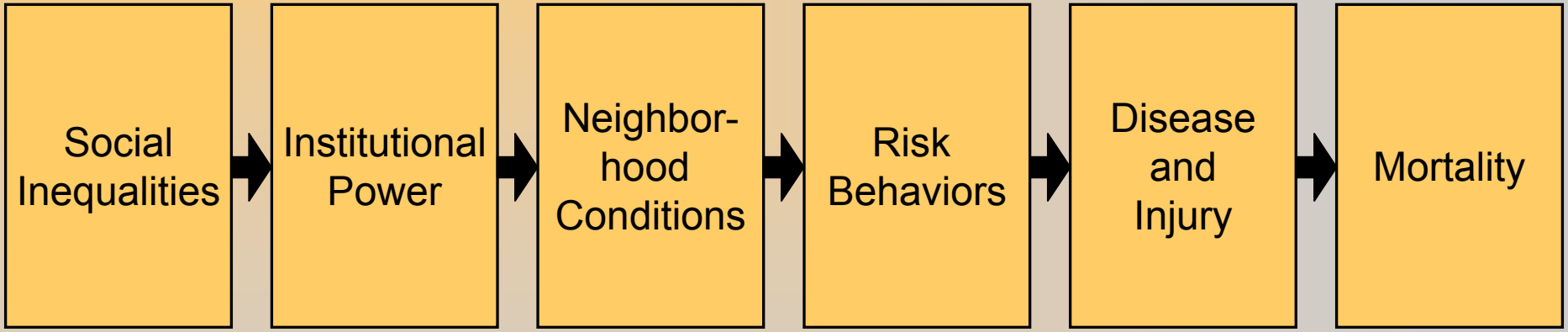

Mortality Rate and % HS Education
Alameda County Census Tracts
2000-2003
2,500
2,000
1,500
1,000
500
0
Mortality Rate
0%
20%
40%
60%
80%
100%
Percentage HS or Better

Race/ethnicity

Class

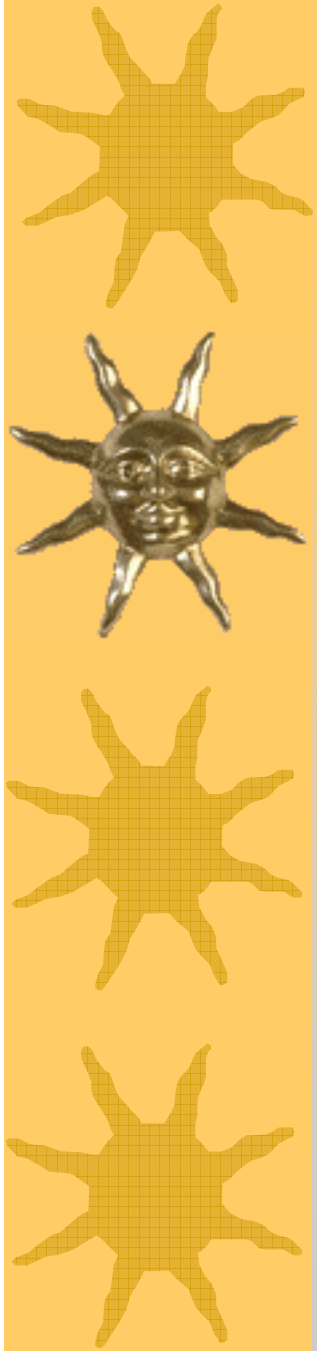
Gender



Immigration status

Results of the statistical comparison of weather and deaths over 12 years show that blacks and those with a high school education or less are most likely to die on extremely hot days. – Harvard School of Public Health study of almost 8 million deaths in 50 cities from 1989 to 2000.

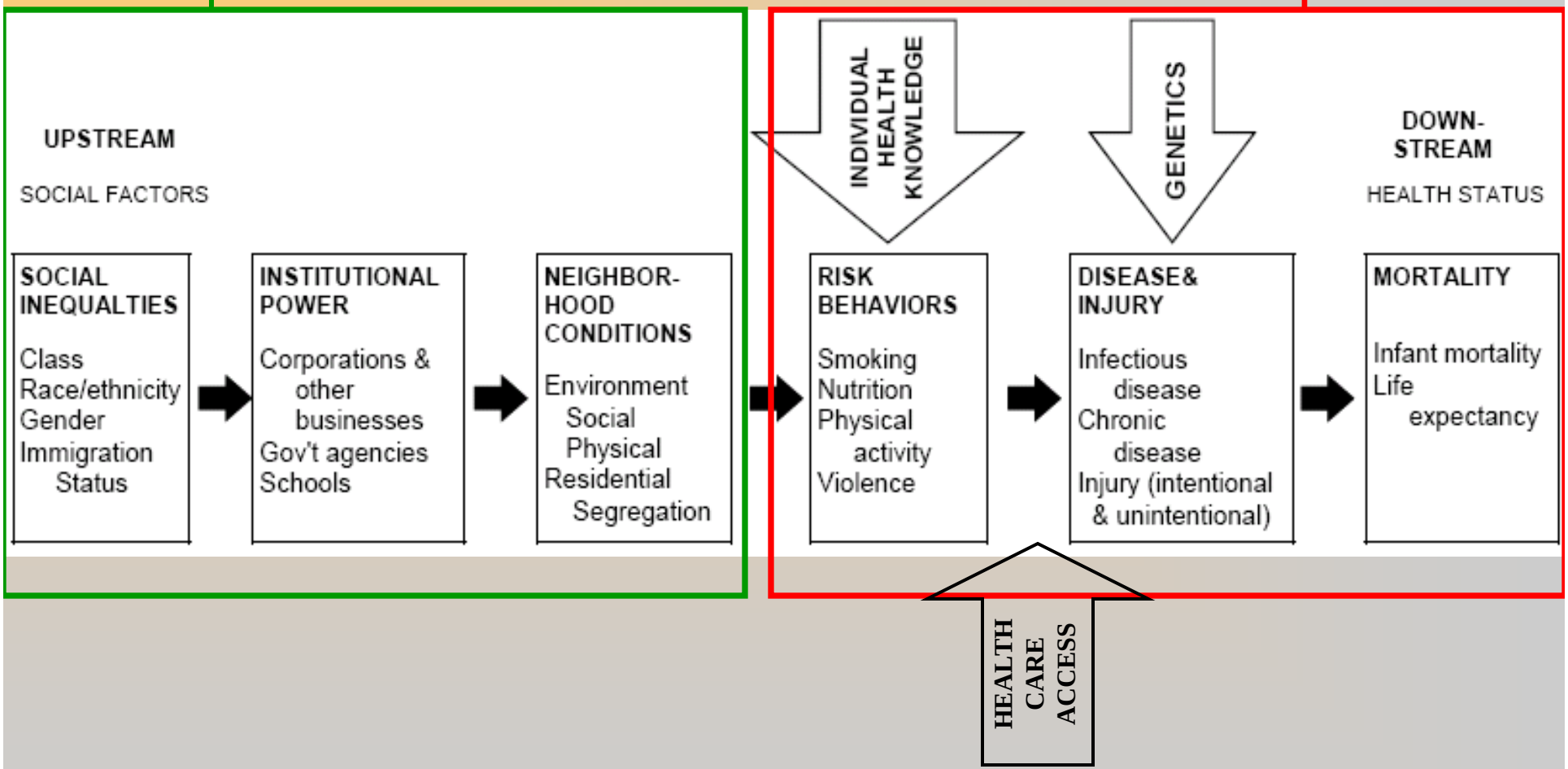
- Chicago also suffers from an everyday "emergency in slow motion" that its leaders refuse to acknowledge. The heat wave was a particle accelerator for the city: It sped up and made visible the hazardous social conditions that are always present but difficult to perceive. Yes, the weather was extreme. But the deep sources of the tragedy were the everyday disasters that the city tolerates, takes for granted, or has officially forgotten.-Eric Klineberg, author of Heat Wave



A Proposed Model

Understanding Health In Context

Health Inequities



-Bay Area Regional Health Inequities Initiative