

Relation entre obésité et classes sociales dans les pays développés

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Is obesity a class issue?

Can you reduce obesity rates without doing anything about poverty?

Differences between EU and US

| | US | EU |
|-----------------------------|-----|-----|
| Obesity rates vary by SES | no | yes |
| Obesity trends vary by SES | no | yes |
| SES determines diet quality | yes | yes |
| Healthier diets cost more | no | yes |
| Healthier foods cost more | no | yes |

Personal responsibility and
Individual behavior

Government action

**First question:
Is there a socioeconomic gradient
in obesity rates?**

The US Behavioral Risk Factors Surveillance
System (BRFSS) says no

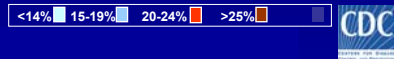
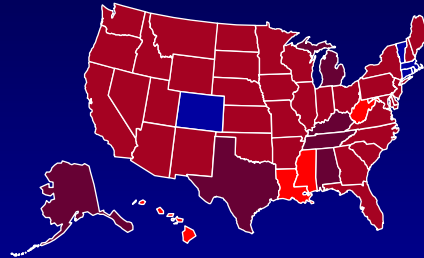
Telephone survey of ~2,000 households per state conducted by
State DOHs and the CDC

Obesity in US 2005 by state

"There is some difference...but many states are almost identical in their obesity rates, so ranking them is essentially worthless from a statistical perspective."

Michael Link, a senior survey methodologist at the CDC.

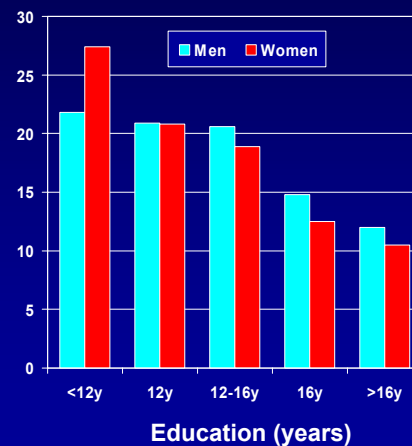
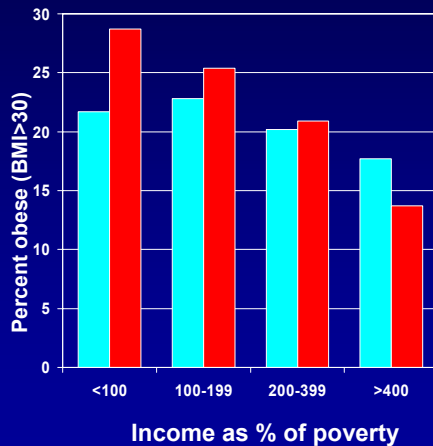
USA Today 8/23/2005



Obesity trends: BRFSS (2002) data from the CDC (BMI ≥ 30)
Right panel: NY Times 08/24/05

Prevalence of obesity by income and education in the US

(CDC/NHCS data for 2002 cited in Drewnowski & Specter, 2004)

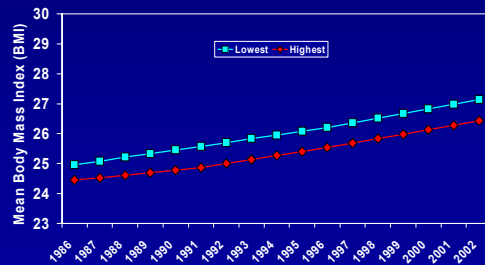
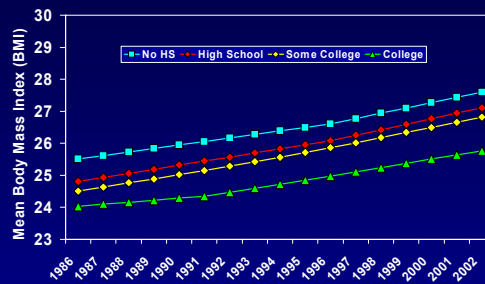


Is there a difference in time trends by SES?

BRFSS data say no

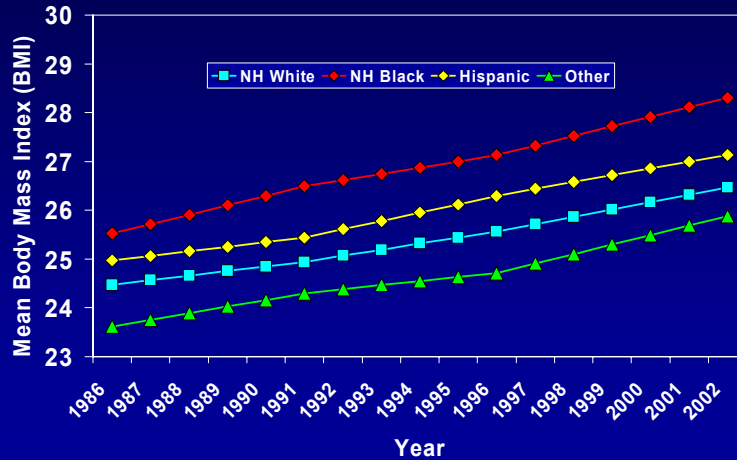
Trends in obesity by education + income

(US Data from BRFSS, calculated by Roland Sturm, RAND)

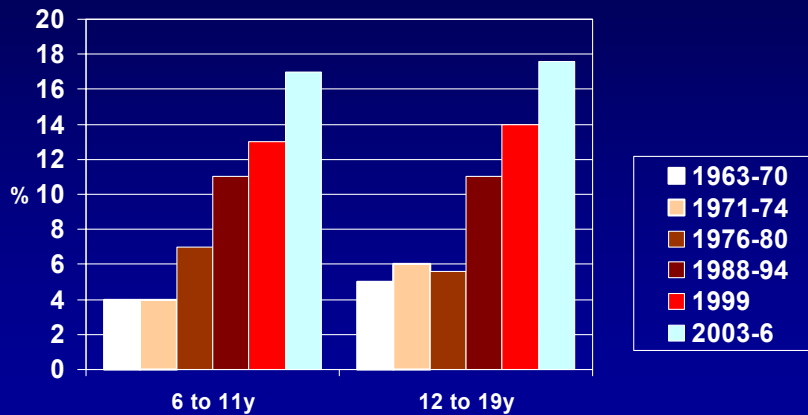


Trends in obesity by race/ethnicity in US

(Data from BRFSS, calculated by Roland Sturm. RAND)



Recent data point to a leveling-off in childhood obesity rates

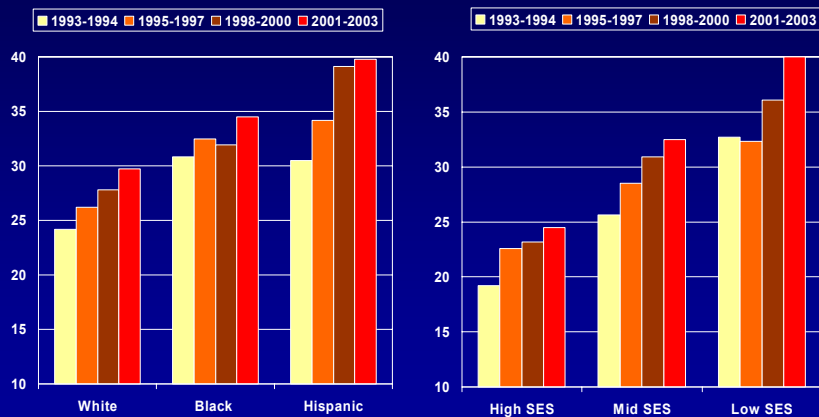


Data from: CDC/NCHS, NHES and NHANES; JAMA May 28, 2008

But a SES gradient does exist – if you look for it and may not have leveled off

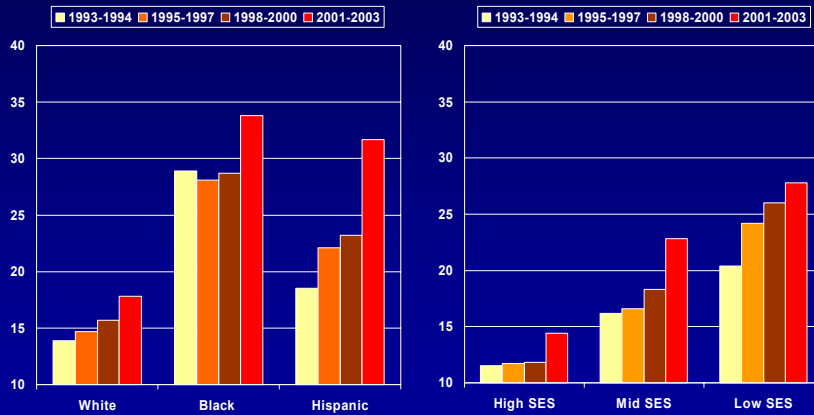
Obesity and Lifestyle Habits Study, U of M

Time trends for boys (grade 10) by race and SES (BMI \geq 85%)



Source: Delva, Johnston, O'Malley. Obesity and Lifestyle Habits Among American Adolescents: YES Paper 6. Parental education <12y (low SES); 12-16y (Mid SES); >16y for both parents (High SES)

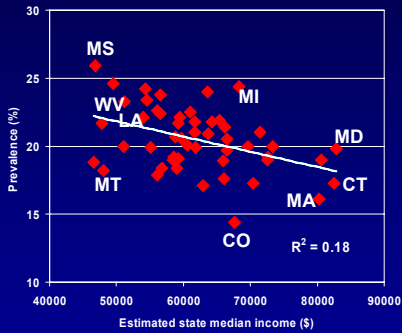
Time trends for girls (grade 10) by race and SES (BMI \geq 85%)



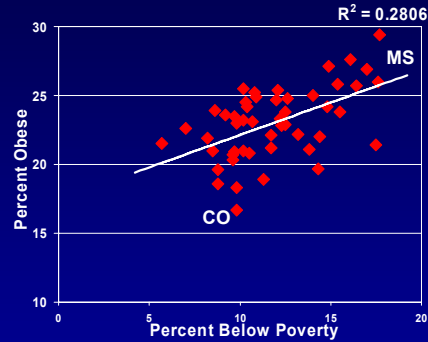
Source: Delva, Johnston, O'Malley. Obesity and Lifestyle Habits Among American Adolescents: YES Paper 6. Parental education <12y (low SES); 12-16y (Mid SES); >16y for both parents (High SES)

**Can SES differences
be revealed using spatial
analyses?**

A link between incomes, poverty and obesity does exist (BRFSS data)



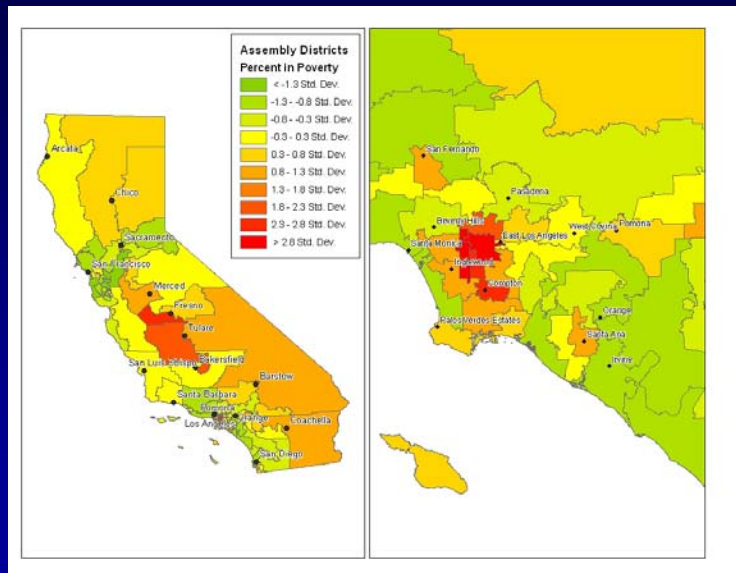
**Obesity and incomes
2001**



**Obesity and poverty
2006**

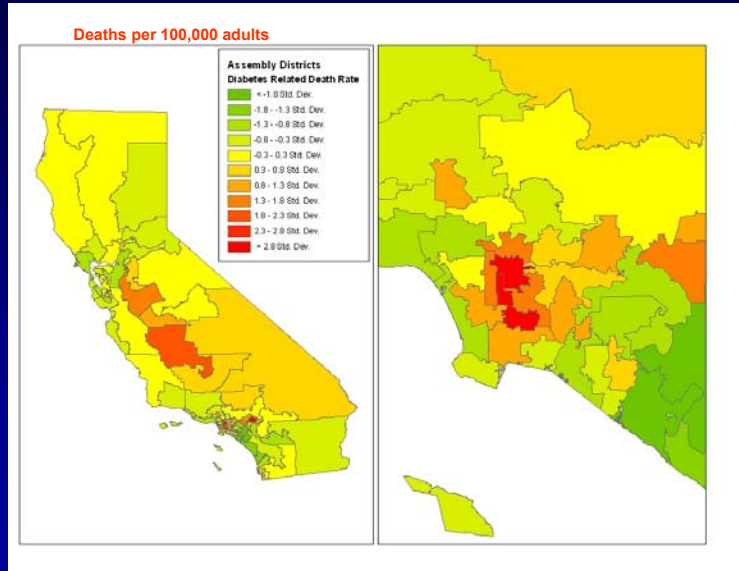
BRFSS (2001; 2006) data from the CDC; Estimated state median incomes for 4 person families (2001/2004); Poverty rates 2006 from Bureau of the Census

Poverty in CA Assembly Districts



Data Source: UCLA Center for Health Policy Research

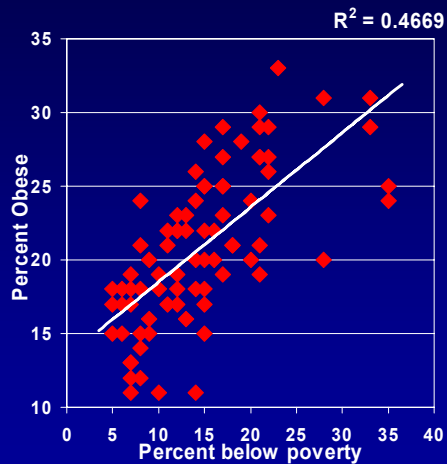
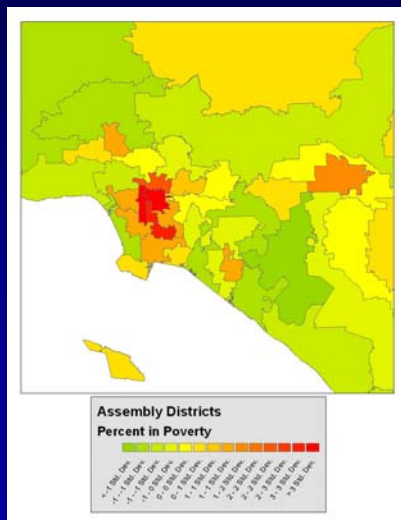
Diabetes deaths in CA Assembly Districts



Data Source: UCLA Center for Health Policy Research

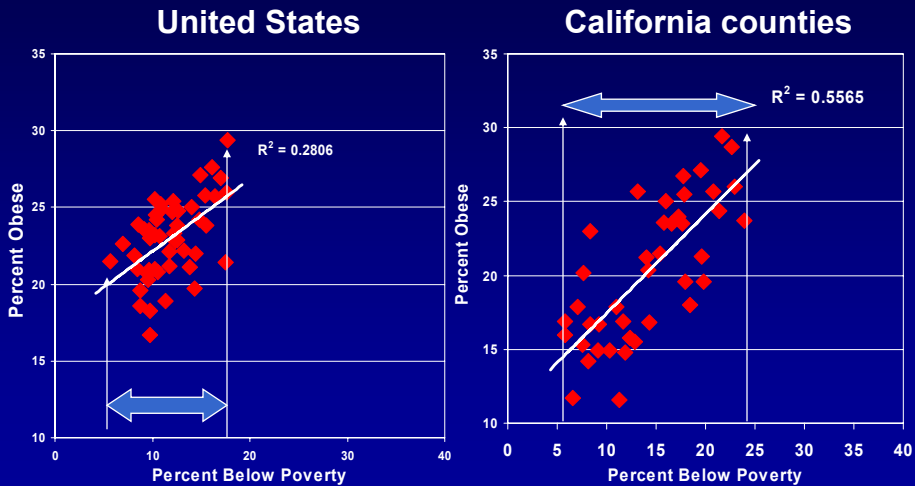
Poverty and adult obesity

Assembly District level data



Data source: UCLA Center for Health Policy Research

Poverty and adult obesity

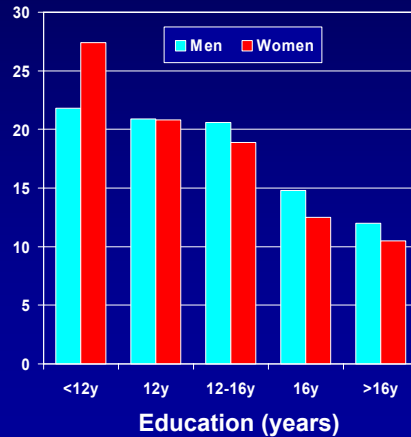
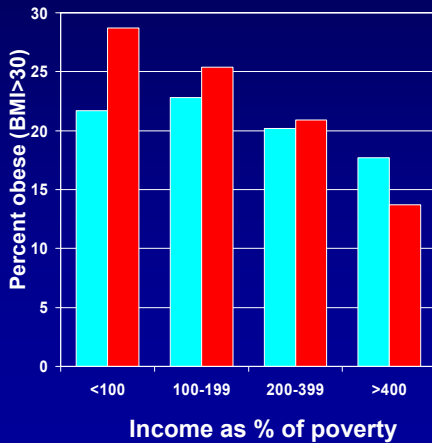


Data Source: BRFSS; United States Census/American Community Survey/F

Is there an SES gradient in the European Union?

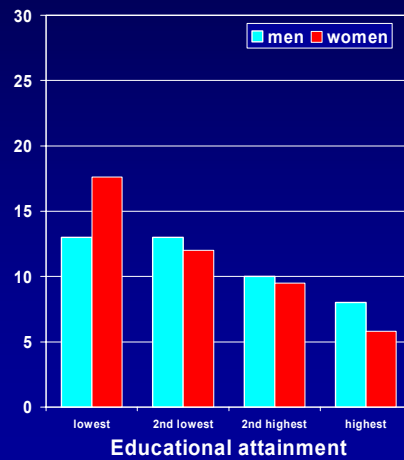
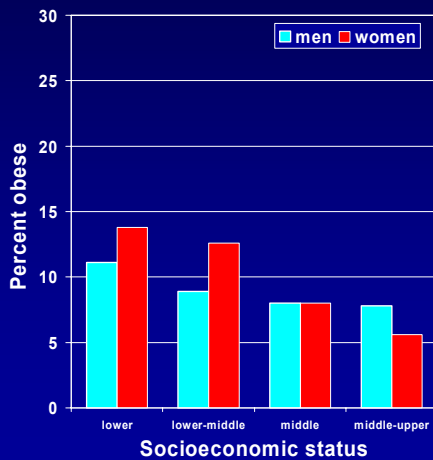
Prevalence of obesity by income and education in the US

(CDC/NHCS data for 2002 cited in Drewnowski & Specter, 2004)



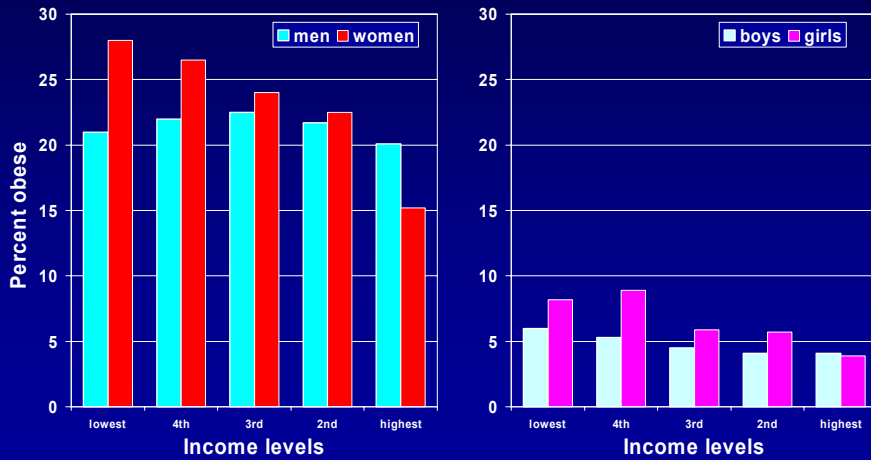
Prevalence of obesity by SES and education in the European Union

(Data from Martinez et al. 1999 PHN and Roskam & Kunst 2007)



Martinez et al. 1999

Prevalence of obesity by SES and education in the UK

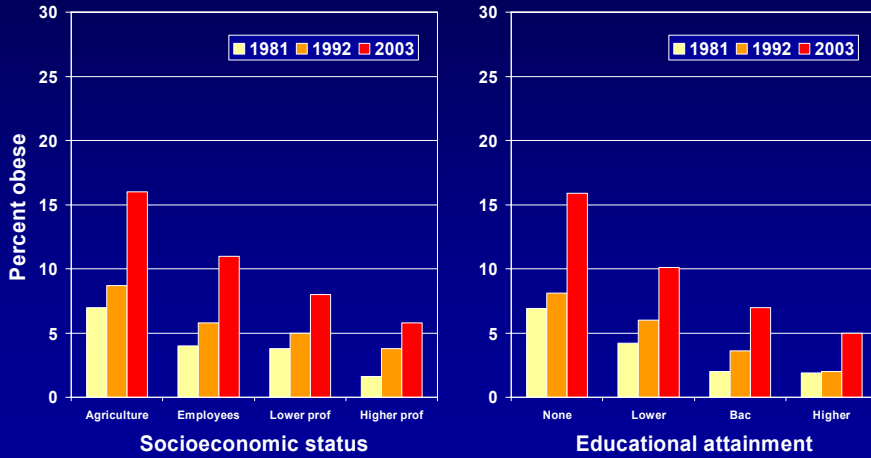


Department of Health. Health Survey for England 2003. 2004

What about time trends in the European Union?

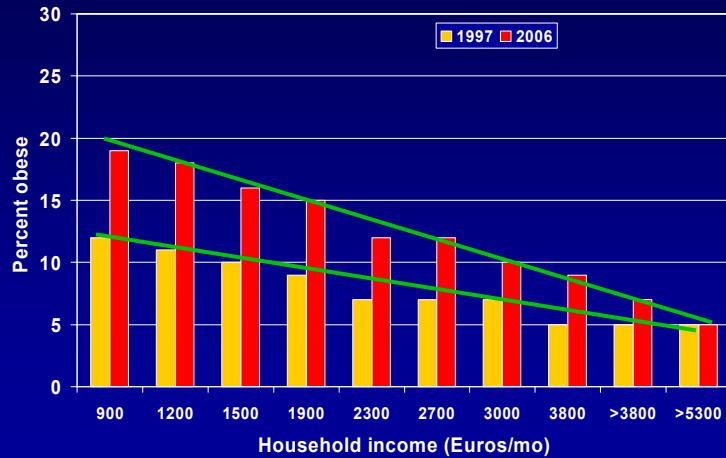
Trends in obesity by SES and education in France

(Data from INSEE 2007)



Trends in obesity by SES and education in France

(Data from Obepi, calculated by Nicole Darmon)



Conclusion:

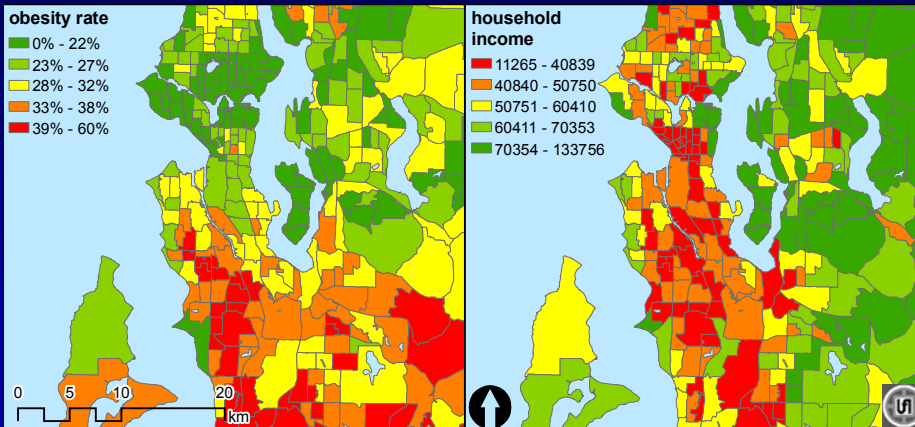
**A gradient does exist –
lower income groups are
getting fatter**

Why is that?

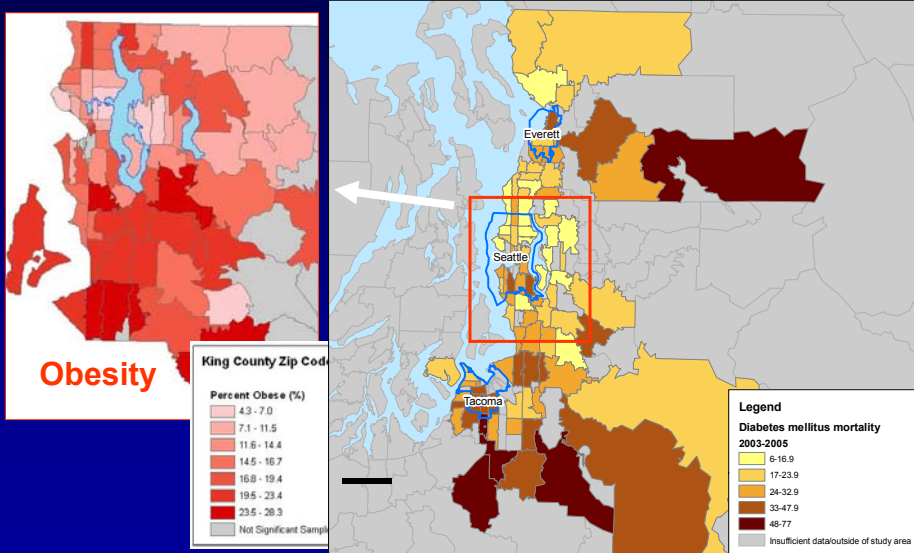
**BRFSS data for Washington State
include the respondent's zip code**

**Demographic data from the US Census geospatial
data archive**

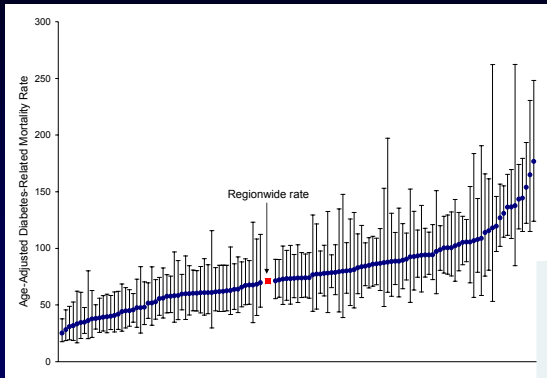
How about using BRFSS data in a novel way



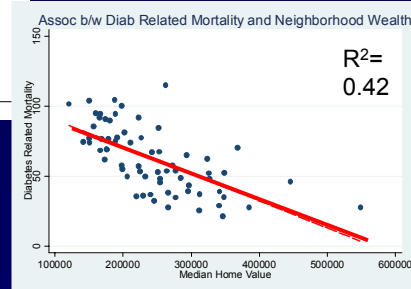
Obesity and diabetes deaths by zip code (BRFSS data/PH-SKC stats)



Seven-fold disparities in local diabetes-related mortality rates

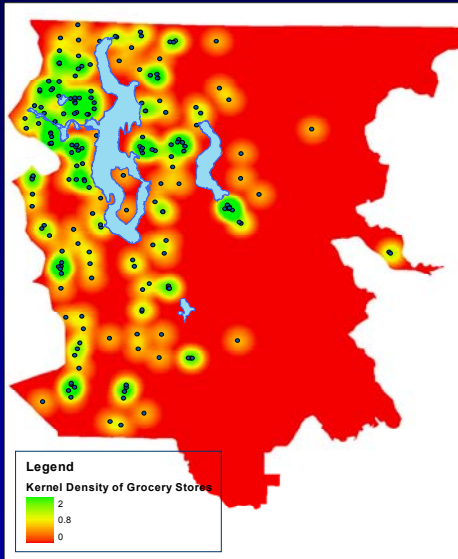
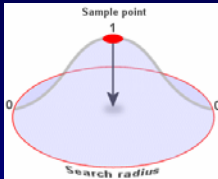


Data from WA State death certificates
Courtesy of PH-SKC, Tacoma/Pierce Co
Health Dept; Snohomish Health District



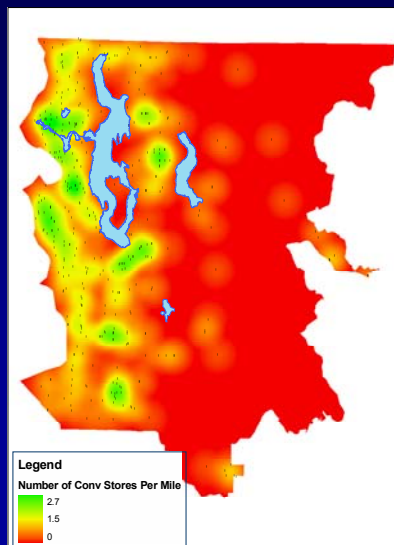
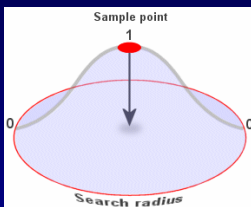
What about physical access to healthy foods?

Density of grocery stores in Seattle-King County, WA



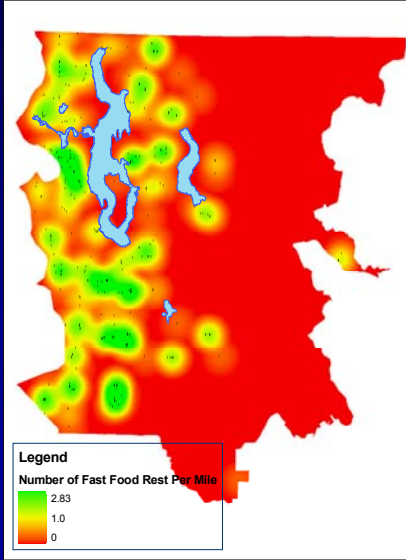
Data source: Washington State Geospatial Archive, Corporate Websites and United States Census Bureau

Density of convenience stores in Seattle-King County, WA



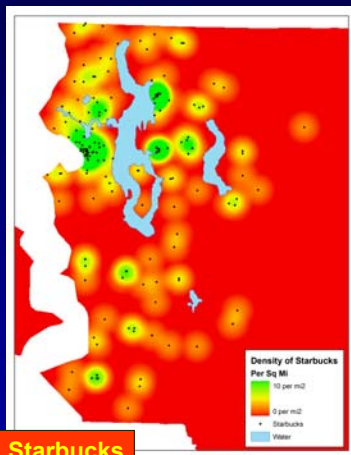
Data source: Washington State Geospatial Archive

Density of fast food outlets in Seattle-King County, WA

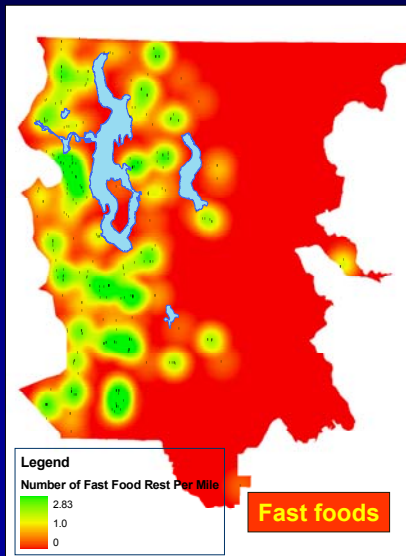


Data source:
Washington State
Geospatial Archive,
Corporate Websites
and United States
Census Bureau

Fewer Starbucks more fast foods in South County



Starbucks



Fast foods

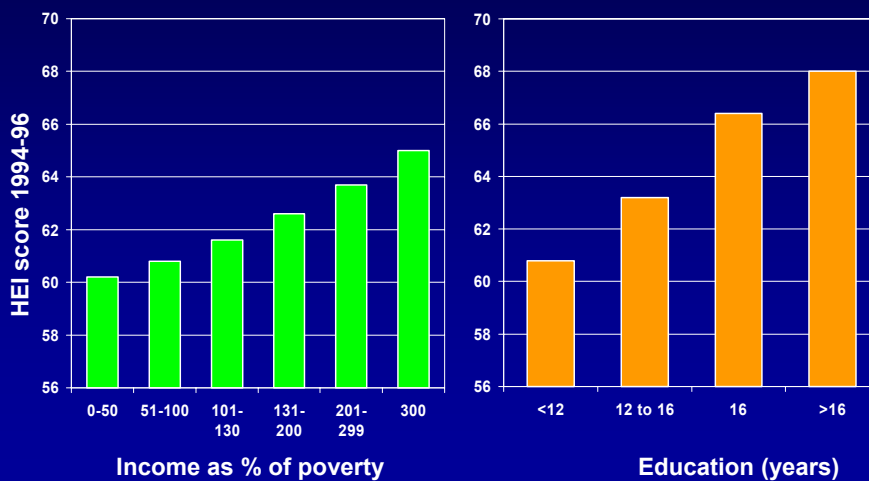
Data source: Washington State Geospatial Archive

**Healthier diets cost more
and are consumed by more
affluent people
who have better access to
resources**

Incomes and education predict diet quality

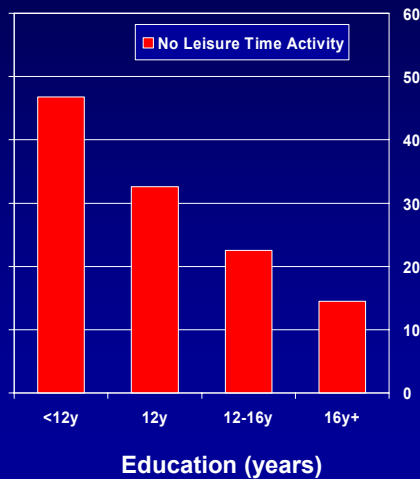
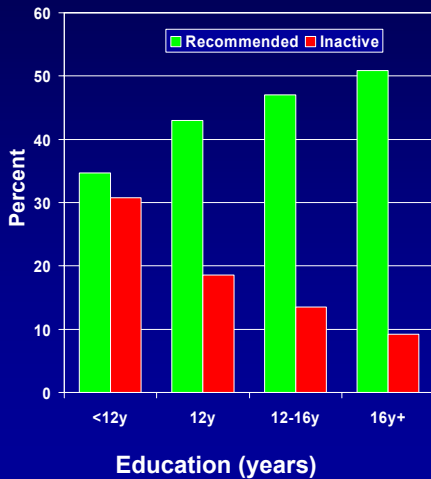
(USDA/CNPP data cited in Drewnowski & Specter, 2004)

The USDA Healthy Eating Index (HEI) is a measure of diet quality



Low education = less physical activity

(CDC/NHCS data 2001)



Who eats 5-a-day in WA State?

Fruits and Vegetables (BRFSS, 2003)

These next questions are about the foods you usually eat or drink. Include all foods you eat, both at home and away from home.

7.1 How often do you drink fruit juices such as orange, grapefruit, or tomato?

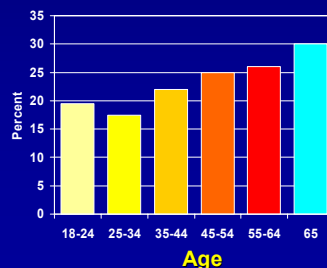
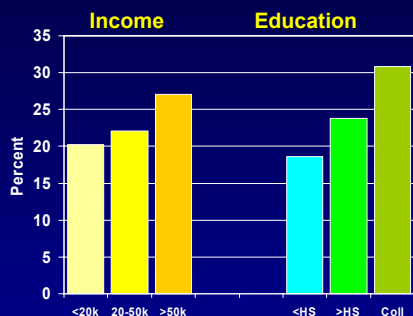
7.2 Not counting juice, how often do you eat fruit?

7.3 How often do you eat green salad?

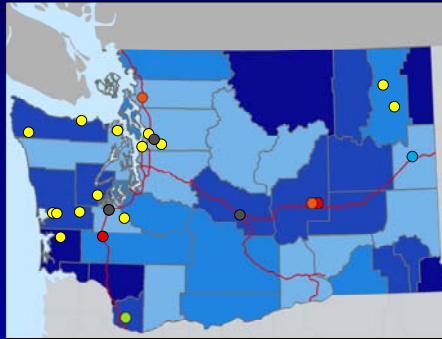
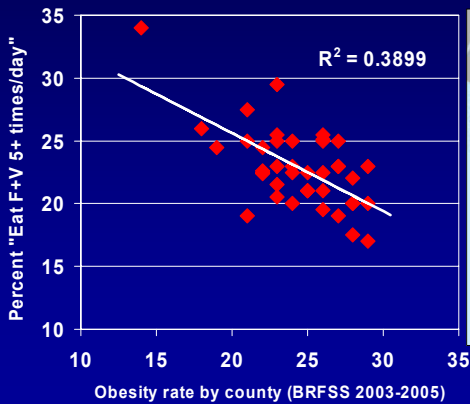
7.4 How often do you eat potatoes not including French fries, fried potatoes, or potato chips?

7.5 How often do you eat carrots?

7.6 Not counting carrots, potatoes, or salad, how many servings of vegetables do you usually eat?



5-a-day and obesity by county

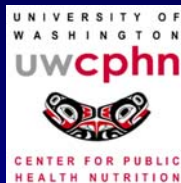


Obesity: biology, behavior, society – and economics

| | |
|--------------------------------|-----------------------------------|
| Energy-dense foods cost less | Nutrient-dense foods cost more |
| Energy-dense diets cost less | Nutrient-dense diets cost more |
| ED foods are readily available | ND foods are scarce |
| Poor people eat cheaper diets | Rich people eat more costly diets |
| Poor people exercise less | Rich people exercise more |
| Poor people have few resources | Rich people have more resources |
| Poor people are obese | Rich people are thin |

Is *inequality* fattening?

Obesity – a toxic consequence of economic environment



- **Inequality is fattening**
- People will get thinner only when they have things that are worth staying thin for - self-esteem, social status and jobs

Polly Toynebee, The Guardian, May 28, 2004

- The obesity problem can be resolved only by addressing social determinants of health
- Affordable healthier diets are one place to start

For more see: www.cphn.org