The Social Determinants of Health and Health Care Inequalities

University of Minnesota Medical School, August 2016

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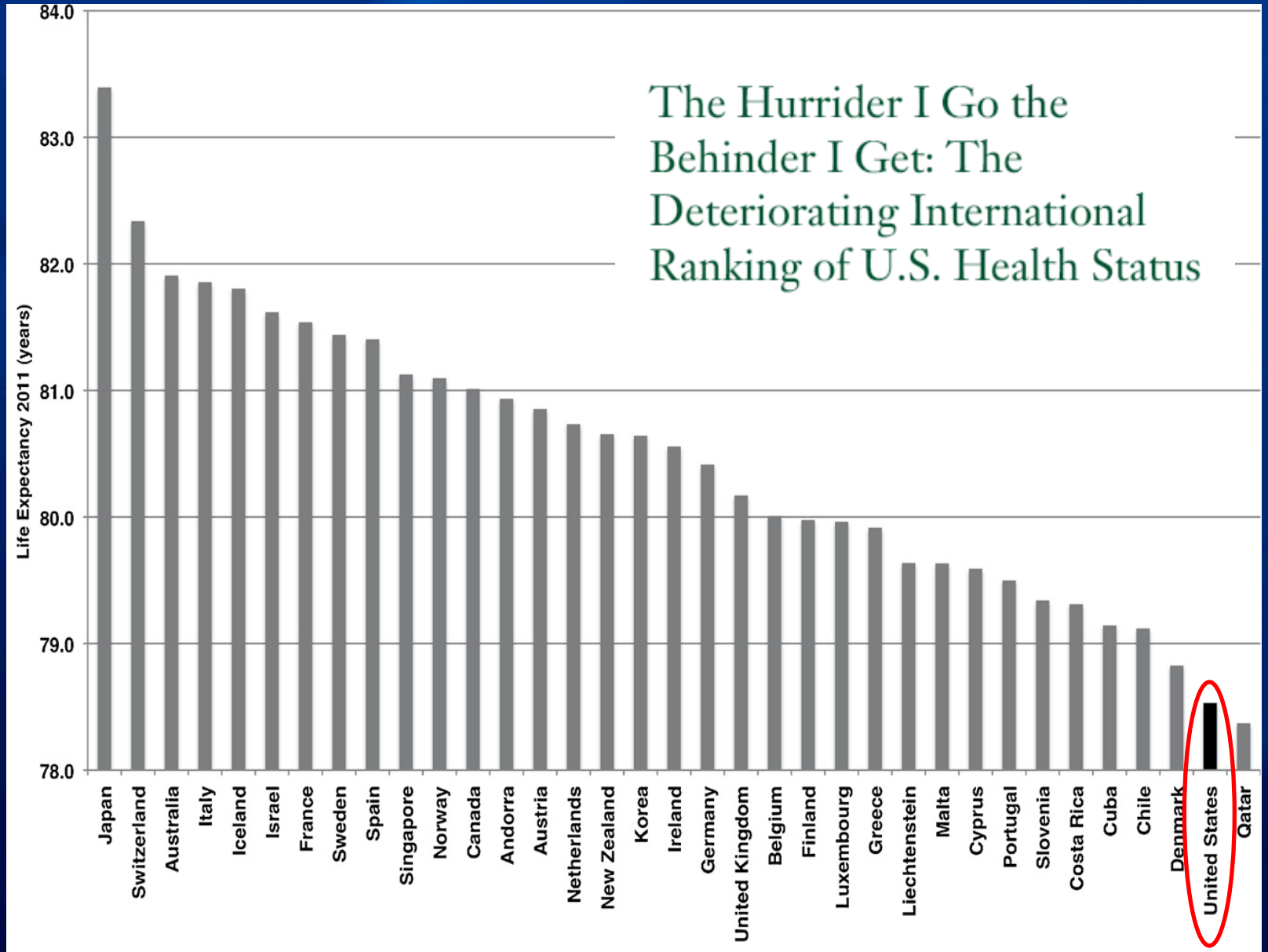
“Supplemental Materials”.

Note: Slides with titles beginning with “Supplemental materials” and/or with a dotted yellow border are extra and will not be covered in class due to time constraints.

You are not required to know the content of the supplemental slides

America leads the world in medical research and medical care expenditures.

Yet, on some of the most important indicators (e.g. how long we live), we're not even in the top 25 countries on health status, lagging behind countries like Bosnia and Jordan.



Bezruchka S. 2012.
Annu. Rev. Public Health. 33:157–73

Why?

"Trends in personal health-related behaviors are only part of the explanation. Reasons for this relative decline are likely due to structural changes related to ***societal determinants of population health*** *stemming from high economic inequality and lack of attention to early life issues."*

Supplemental Material:
Examples of US policies with implications for health

- The U.S. is the only industrialized nation that doesn't require employers to provide paid sick leave.
- 47% of U.S. private sector workers must choose between staying home or losing a day's pay.
- The U.S. is the only industrialized country that doesn't require paid vacations by law.
- 1 in 4 American workers receive NO paid holidays or vacations. (European countries mandate paid holidays and vacations of between 4 and 6 weeks).

Key Concepts: The Social Determinants of Health and Health Inequalities

- **Social determinants of health** are the economic and social conditions that influence the health of people and communities. They are the ***circumstances into which we are born, grow up, live, work and age***.
- **Health inequalities** are preventable and unfair differences in health status between groups, populations or individuals.

Source: World Health Organization Social Determinants of Health (http://www.who.int/social_determinants/en/)

Socioeconomic Status

- Socioeconomic status is among the most powerful predictors of health.

- It is more powerful than genetics, exposure to carcinogens, and even smoking.

- The gap in all-cause mortality between high and low SES persons is larger than the gap between smokers and non-smokers.

Socioeconomic Status

- Low SES adults have levels of illness in their 30s and 40s that are not seen in the highest SES group until after the ages of 65-75.

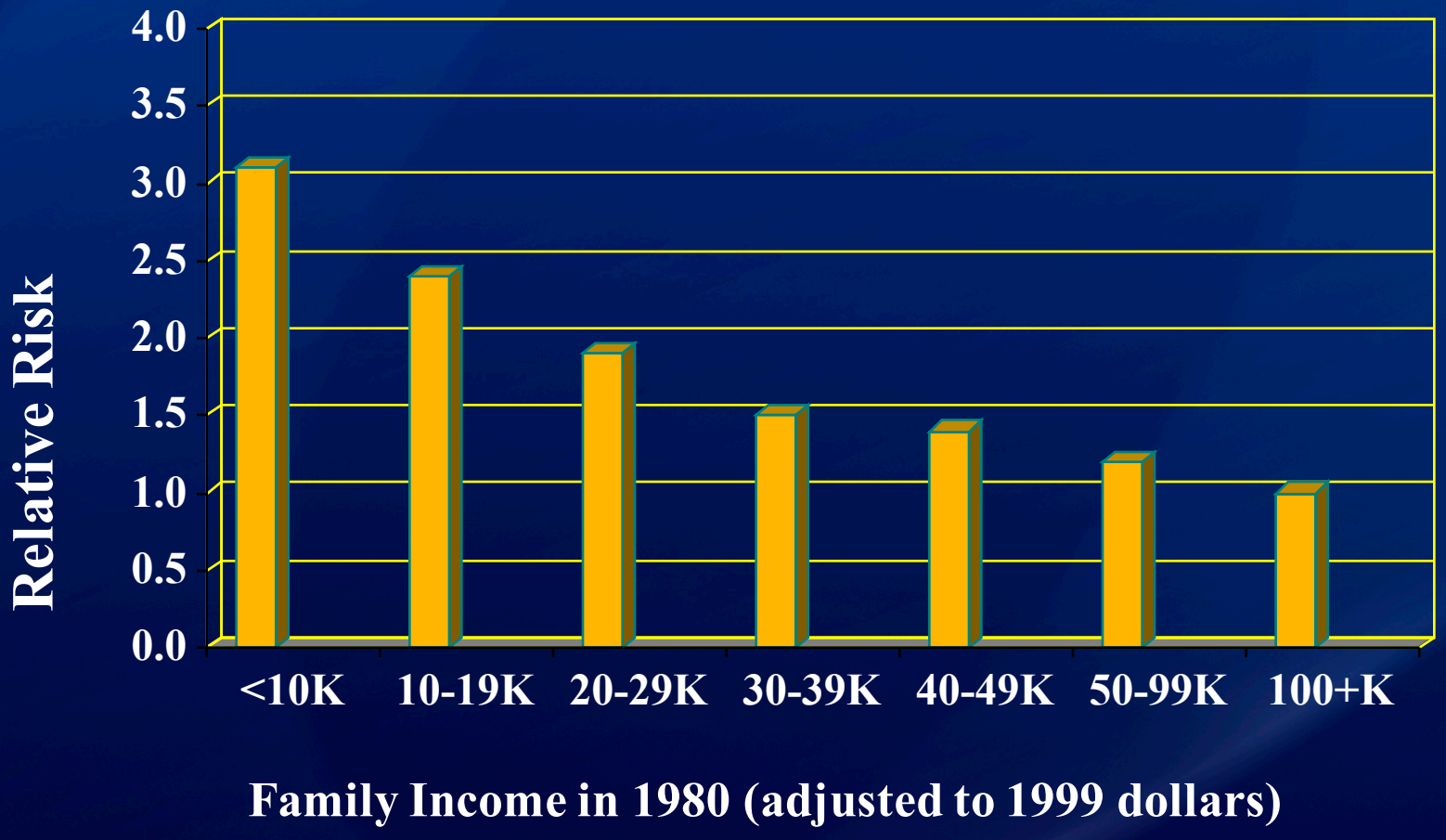
Key Concept: What is Socioeconomic Status (SES)?

- Usually defined as a combination of income, education and occupation.
- Commonly conceptualized as the *social status or class* of an individual or group.
- Income, education and occupation are highly correlated in the US . Each have components with effects on health status.

Key Concept: Social Gradient In Health

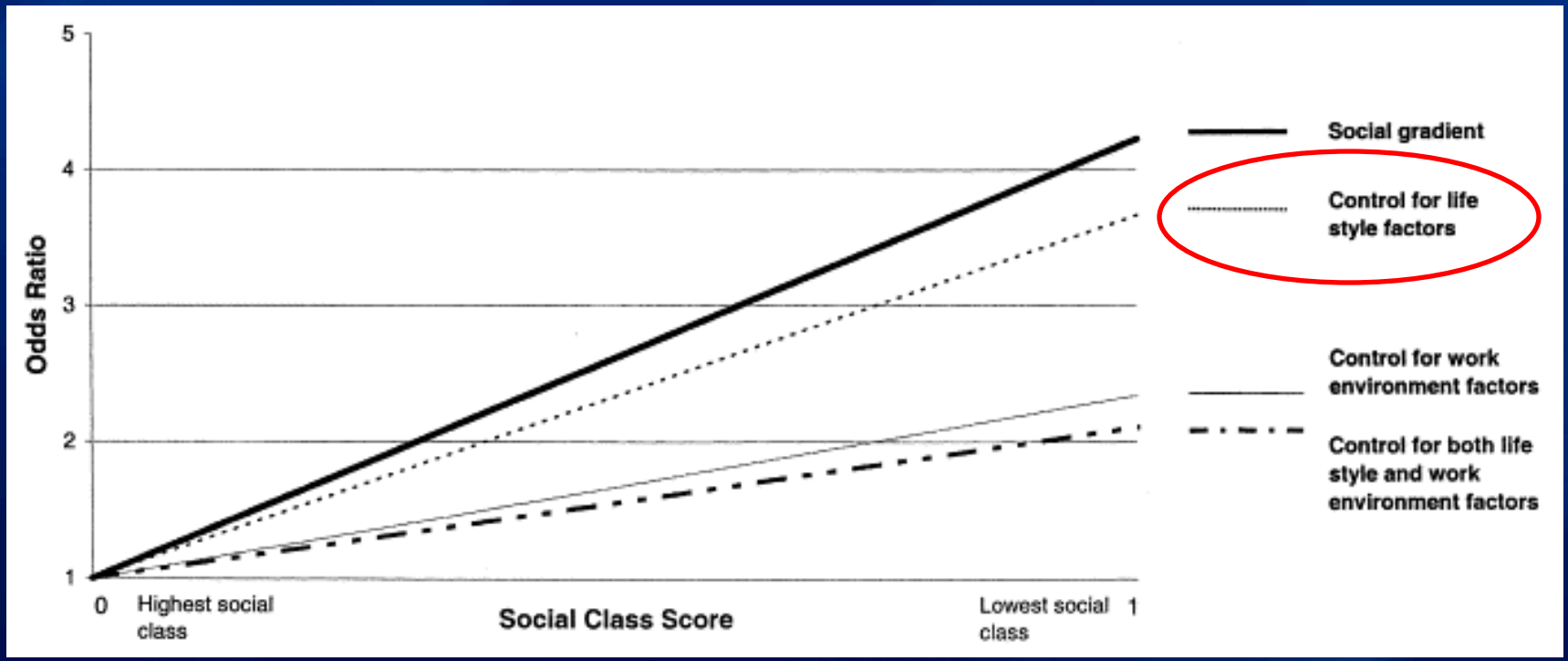
- Description of fact that rates of morbidity, mortality, disability – virtually every measure of health status – increase as SES decreases.
- Global phenomenon – all countries.
- Not just poor vs. not poor - people just below the highest levels tended to have shorter lives and be sicker than those just above them and so on all the way down.

The SES and Health Gradient
Relative Risk of Premature Death by Family Income (U.S.)



9-year mortality data from the National Longitudinal Mortality Survey

The SES and Health Gradient
Social Class and Self-Rated Poor Health



Vilhelm Borg, Tage S Kristensen, Social class and self-rated health: can the gradient be explained by differences in life style or work environment?, Social Science & Medicine, Volume 51, Issue 7, 1 October 2000, Pages 1019-1030, ISSN 0277-9536

Supplemental Material: Percent of Low Income Families by Race and Ethnicity, US and Minnesota, 2011

	White	Black	Asian	Hispanic	American Indian
	Low-Income	Low-Income	Low-Income	Low-Income	Low-Income
US	31%	65%	32%	65%	63%
MN	23%	72%	44%	63%	69%

SES Gradient in Health

- In 2011, 46 million Americans lived below the poverty line — and 10 million of these individuals were employed.
- Children living in poverty are about seven times as likely to be in poor or fair health than children living in high-income households.
- Middle class children are twice as likely to be in poor or fair health than those at the top.
- Low-income smokers are more likely to become ill and die sooner from tobacco-related diseases than smokers who are wealthy.

Child Poverty

- More than 16 million children in the United States – 22% of all children – live in families with incomes below the federal poverty level ($23,550/year-family of four).
- Research shows that, on average, families need an income of about twice that level to cover basic expenses. Using this standard, 45% of children live in low-income families.

National Center for Children in Poverty
(http://www.nccp.org/topics/childpoverty.html)

Key Points

Individuals of different social statuses inhabit social environments that differ markedly in:

- the health threats encountered,
- the frequency of their exposure, and
- the degree to which they have resources to counter these threats.

- Health is determined by where we live, work and play throughout our lifespan.

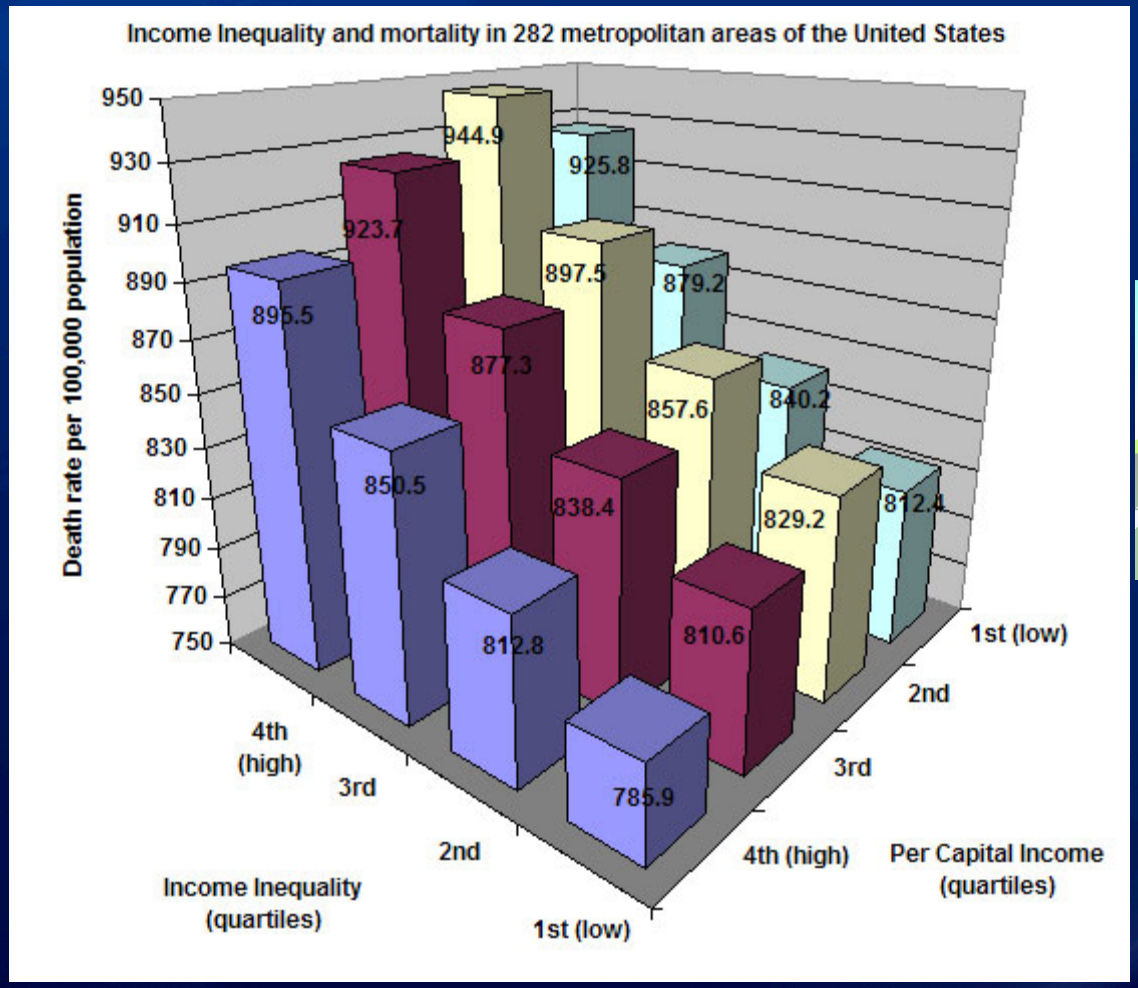
For each 1 year of post secondary education, there is a 16% decline in years of life lost before age 75.

Supplemental Material: SAT Scores by Income

Family Income	Median Score
More than $100,000	1129
$80,000 to $100,000	1085
$70,000 to $80,000	1064
$60,000 to $70,000	1049
$50,000 to $60,000	1034
$40,000 to $50,000	1016
$30,000 to $40,000	992
$20,000 to $30,000	964
$10,000 to $20,000	920
Less than $10,000	873

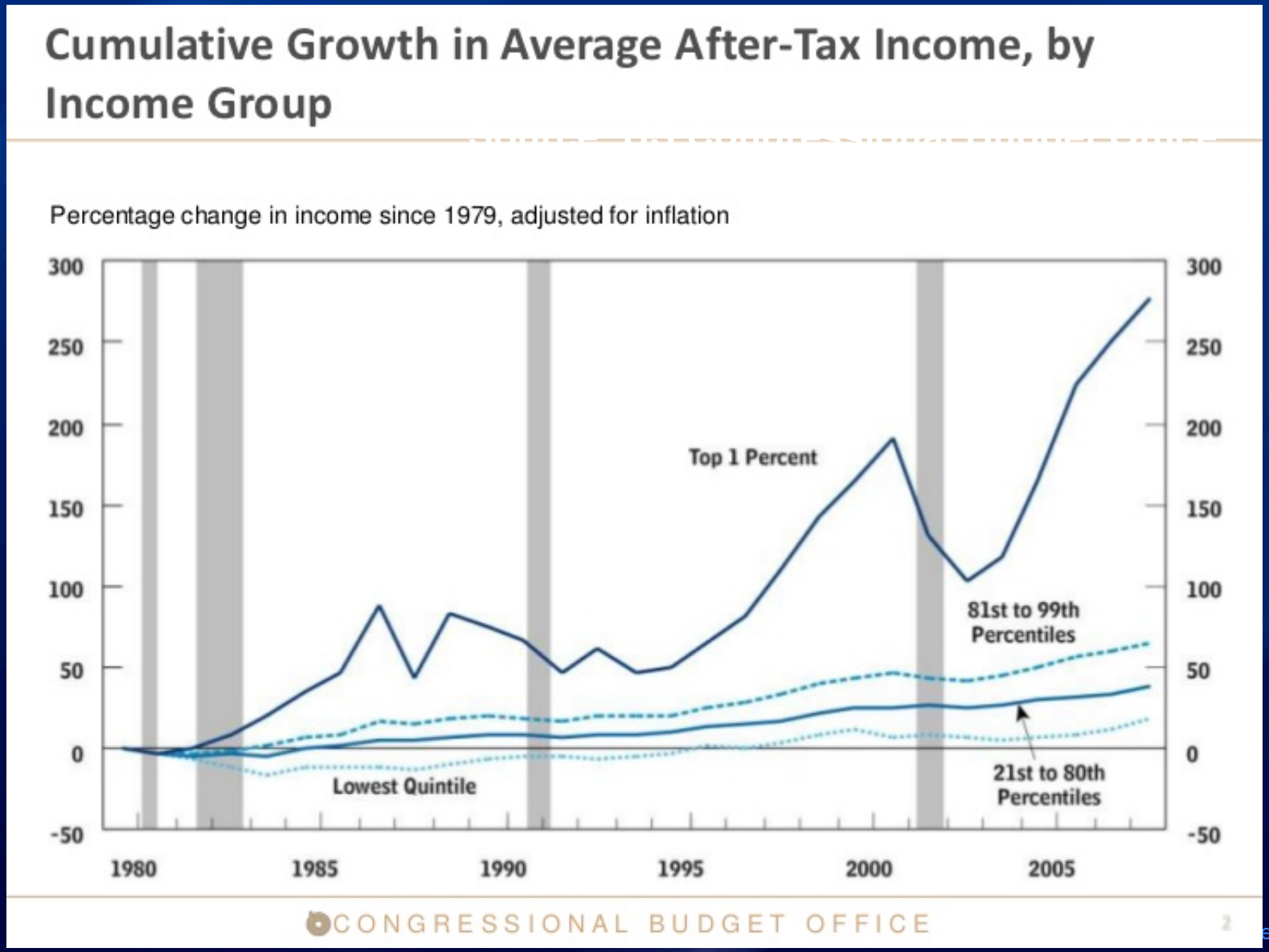
Source: (ETS) Mantsios; N=898,596

Not just income; income inequality can affect population health.



Patrick Hayes using data from J. Lynch G.A. Kaplan, et al., "Income inequality and Mortality in Metropolitan Areas of the United States ," *American Journal of Public Health 88 (1998): 1,074-80*

Supplemental Material: Income inequality is increasing in the US



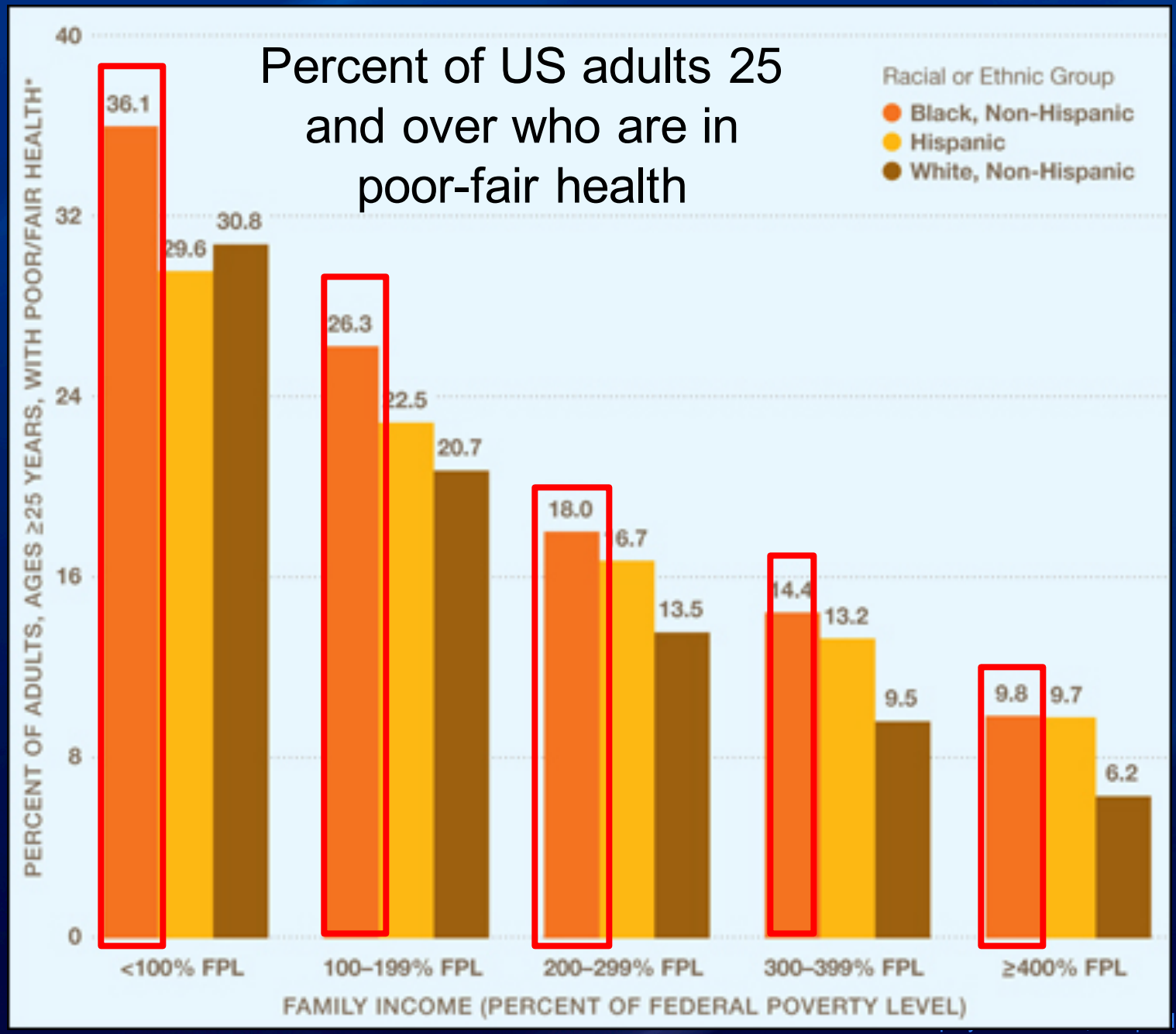
Race

- Past and present discrimination in housing, jobs and education means that today people of color are more likely to be lower on the class ladder.
- At all levels of SES black Americans have worse health and die sooner than their white counterparts.
- More African American, Native American, Latino and Pacific Islanders are in poor or fair health than whites at practically every income level.

Race

- Age-adjusted all-cause mortality for black Americans was one-and-a-half times higher than that of whites in 1998, identical to 1950.
- Black:white ratios of mortality from CHD, cancer, and diabetes were larger in late 1990s than in 1950.
- The black:white ratio in infant mortality increased from 1.6 in 1950 to 2.4 in 1998.

National Center for Health Statistics (US). Health, United States, 2000 with adolescent health chartbook. Department of Health and Human Services (US); 2000.
Williams DR. Race, SES, and health: the added effects of racism and discrimination. Ann N Y Acad Sci 1999;896:173-88.


Percent of US adults 25 and over who are in poor-fair health
Racial or Ethnic Group
Black, Non-Hispanic
Hispanic
White, Non-Hispanic
PERCENT OF ADULTS, AGES ≥25 YEARS, WITH POOR/FAIR HEALTH*
40
32
24
16
8
0
36.1
29.6
30.8
26.3
22.5
20.7
18.0
16.7
13.5
14.4
13.2
9.5
9.8
9.7
6.2
<100% FPL
100–199% FPL
200–299% FPL
300–399% FPL
≥400% FPL
FAMILY INCOME (PERCENT OF FEDERAL POVERTY LEVEL)

Preterm births in the MSP metro area by education, race and ethnicity (2008)

1: Minneapolis-St. Paul-Bloomington, MN-WI		Value	Scale
Non-Hispanic White	4 years of college or more	3.3%	
	Some college, but less than 4 years	4.0%	
	4 years of high school or less	5.5%	
Hispanic	4 years of college or more	3.7%	
	Some college, but less than 4 years	3.6%	
	4 years of high school or less	5.2%	
Non-Hispanic Black	4 years of college or more	7.0%	
	Some college, but less than 4 years	8.9%	
	4 years of high school or less	8.2%	

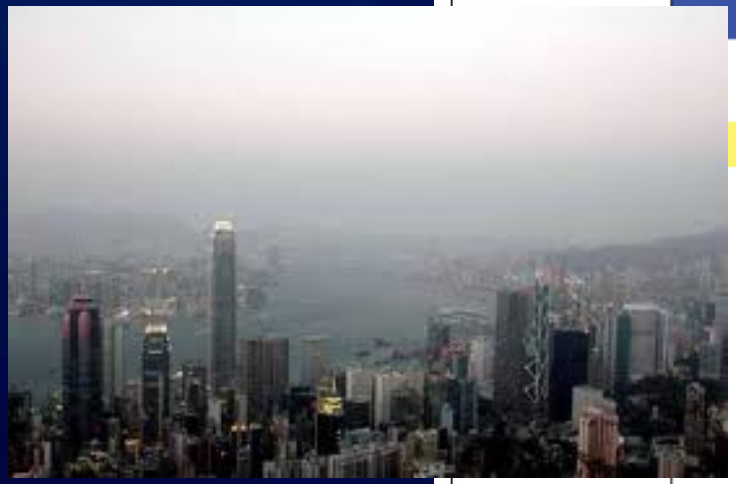
Where we live, work and play determines our exposure to health risks

Neighborhood and housing

- SES affects neighborhood and living conditions.
- Exacerbated for black Americans; very high levels of racial segregation.
- Poorer neighborhoods are disproportionately located near highways, industrial areas, and toxic waste sites.

Where we live, work and play

- Exposure: Air pollution

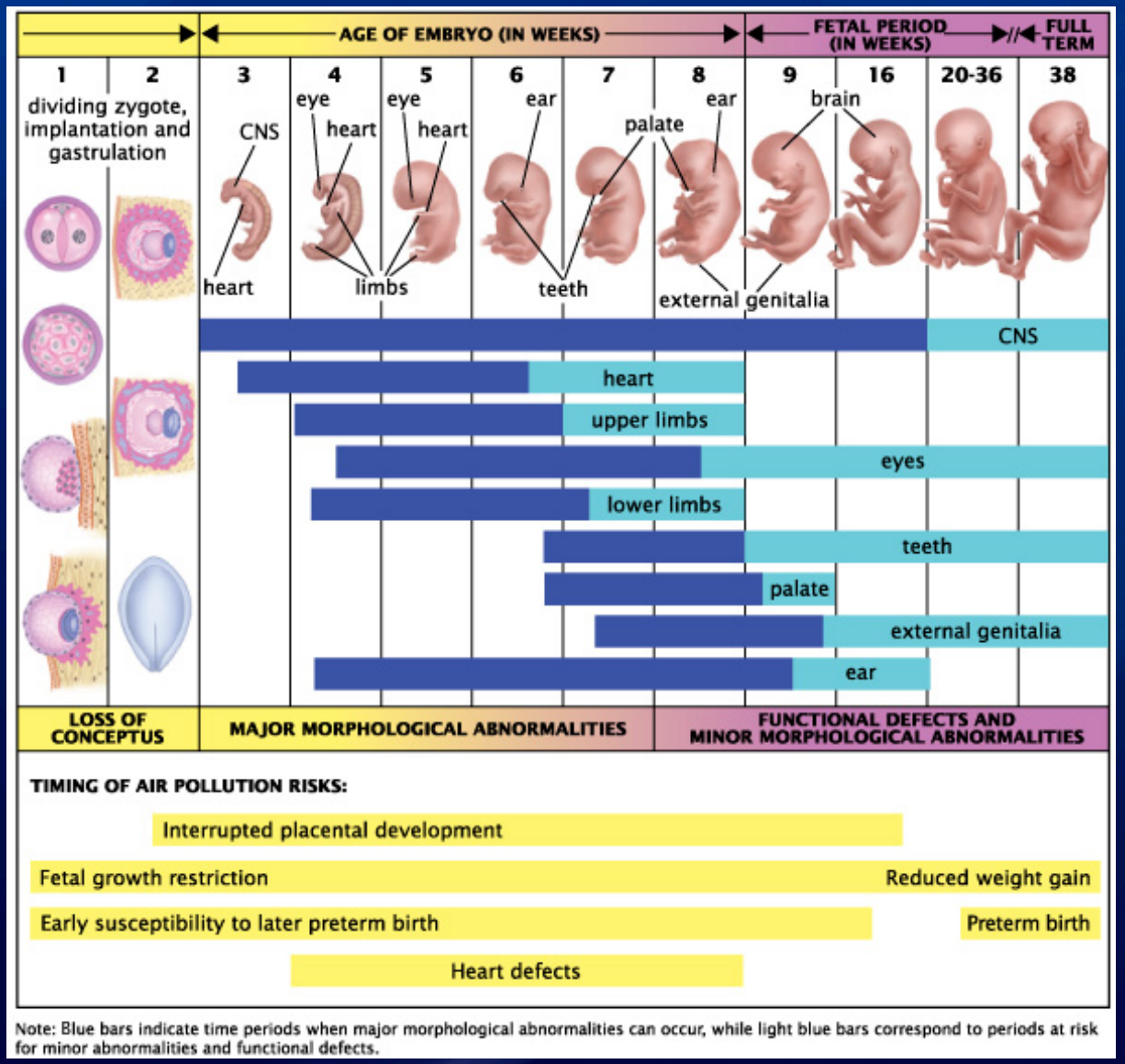


Stage: Age:	Newborn 0–2 mos	Infant/Toddler 2 mos–2 yrs	Young Child 2–6 yrs	School-Age Child 6–12 yrs	Adolescent 12–18 yrs
Lung development:	Alveolar development				
	High respiratory rate				
			Increasing lung volume		
	Respiratory death				
			Chronic cough and bronchitis		
			Reduced lung function		
			Wheezing and asthma attacks		
		Respiratory symptoms and illnesses*		Respiratory-related school absences	

*Air pollution exposure has also been more recently linked to respiratory symptoms and illnesses in early life including cough, bronchitis, wheeze and ear infections

Supplemental Material: Exposures

- Air pollution

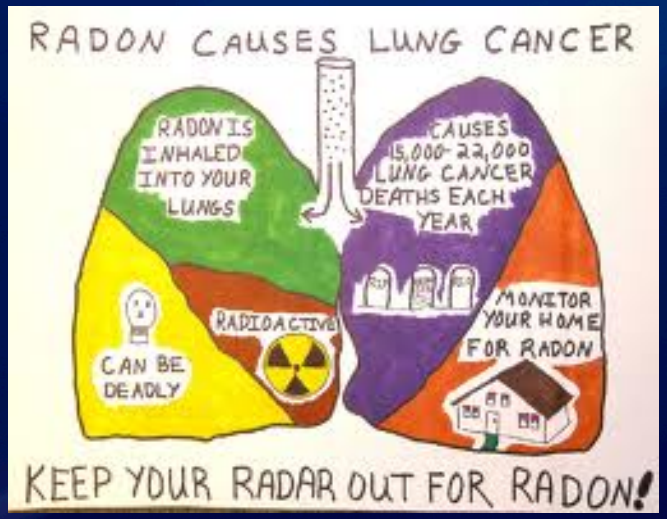


Note: Blue bars indicate time periods when major morphological abnormalities can occur, while light blue bars correspond to periods at risk for minor abnormalities and functional defects.

Where we live, work and play

Exposure: Radon levels

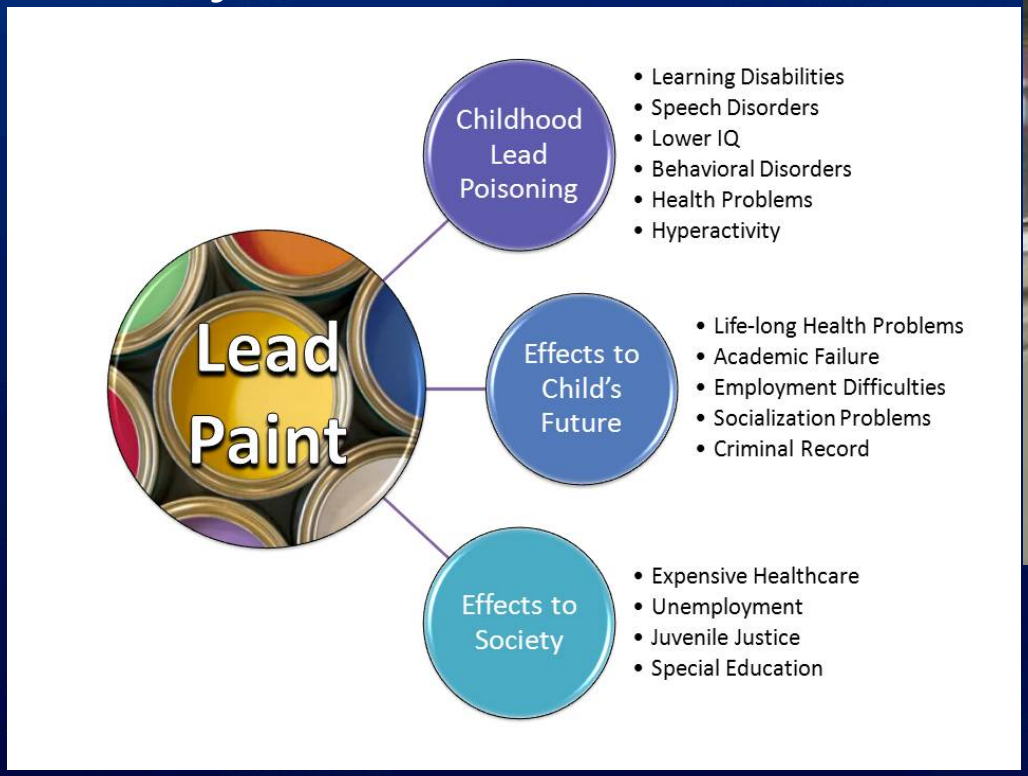
- Higher exposure in low SES or poor quality housing associated with racial segregation…determined largely by structural deficiencies such as foundation cracks and unimproved basement floors
- Can you afford to move?
- Can you afford remediation?



Where we live, work and play

Exposure: Lead in paint, water & soil

- Can you afford abatement?



Where we live, work and play

Exposure: Crowding

- Psychological Stress
- Infectious diseases
- Interpersonal strain
- Family conflict

Where we live, work and play

Exposure: Noise

The WHO has documented seven categories of adverse health effects of noise pollution on humans.

Where we live, work and play

Occupational Exposures

- Low SES and racial and ethnic minority workers more likely to work in hazardous occupations.
- Higher rates of both physical exposures and psychological stressors.

"As low wage jobs require little or no training, the replacement costs of persons in such jobs is low. Thus, the benefit to the employer of investing in the health and safety of workers in these jobs is lower than for highly trained workers."

US Social Security Administration ORS Working Paper 65.
http://www.ssa.gov/policy/docs/workingpapers/wp65.pdf

Where we live, work and play

Exposure: Chronic Stress

- SES and other social position (race, stigmatized group membership) increases chronic exposure to stressors with fewer resources to deal with stressors. Chronic Stress: job insecurity, unpaid bills, inadequate childcare, underperforming schools, worry, insecurity, unemployment, dangerous neighborhood, ambient stressors
- **Ambient stressors:** Stable, on-going, intractable conditions of the physical environment
  (e.g. Noise, Crowding, Heat, Air Pollution)

Where we live, work and play

Exposure: Chronic Stress

- Associated with poorer health outcomes. Examples include:
  - Vulnerability to infectious illness,
  - The extent and intensity of inflammatory and healing processes, and
  - reactivation of latent viruses such as herpes simplex or Esptein-Barr.
- Work stress: High demands and

low decision control predicts CHD.

You have little extra income and an older car.

Your car is more likely to break down – daily worry.

It does break down. Can you afford a tow truck? Do you leave your car by the side of the road?

Do you feel safe? Are you scared?

You're late to work. Do you lose essential income? Your job? Are you reprimanded?

Can you afford to fix your car? Do you have to choose between transportation and food?

How will you get to work tomorrow?

Where we live, work and play

Exposure: Discrimination/ micro-aggression/ exclusion

- Among stigmatized groups, experiences of discrimination have been linked to risk of…
  - Stroke, hypertension, cancer, obesity, anxiety, depression;
  - Health behaviors such as smoking, binge eating, substance abuse.
- Perceptions of discrimination appear to induce physiological and psychological arousal, and, as is the case with other psychosocial stressors, systematic exposure to experiences of discrimination may have long-term consequences for health.

Several excellent reviews, including meta-analysis by Pascoe & Richman 2009

Supplemental Materials: Stress, Biology and Disease

Two biological systems are thought to be central in linking stressor exposure to disease: the sympathetic nervous system (SNS) and the hypothalamic-pituitary adrenocortical (HPA) axis. Primary markers of SNS activation, the hormones epinephrine and norepinephrine, are increased by stress and cause 1) suppression of cellular immune function; 2) hemodynamic changes, including increased blood pressure and heart rate; 3) abnormal cardiac rhythms (ventricular arrhythmias) that have been linked to sudden death; and4) neurochemical imbalances that contribute to the development of psychiatric disorders. Similarly, elevations in a primary marker for HPA activation, cortisol, have been associated with stressful situations such as caregiving and work strain. Elevated levels of cortisol have been found to 1) suppress immune function; 2) facilitate central adiposity, a risk factor for coronary heart disease and diabetes; and 3) be associated with (and possibly contribute to) major depression.

Sheldon Cohen, William J. Doyle, & Andrew Baum. Socioeconomic Status Is Associated With Stress Hormones. *Psychosomatic Medicine* 68:414–420 (2006), p 414.

Supplemental Materials

- If you are especially interested see:

The Physiology of Stress: Cortisol and the Hypothalamic-Pituitary-Adrenal Axis, Michael Randall, February 3, 2011, Dartmouth

http://dujs.dartmouth.edu/fall-2010/the-physiology-of-stress-cortisol-and-the-hypothalamic-pituitary-adrenal-axis#.UhInXJUqIyI

Where we live, work and play

Risk/Resilience Factor: Health behavior

- Contribute to higher morbidity related to a range of diseases as well as to mortality.
- Virtually every health behavior, including smoking, physical inactivity, and unhealthy diets, is patterned by SES.
- Among the health behaviors, tobacco use accounts for the greatest number of deaths, with approximately 400,000 deaths oer year in the United States attributed to smoking.[67]

Supplemental Materials: Odds ratios from logistic regression of health behaviors on SES variables (Ns range from 14,129 to 14,608)[a]

	No controls for other SES variables			Controls for other SES variables		
SES Variable	Currently smokes	No exercise	BMI obese	Currently smokes	No exercise	BMI obese
Education (years)						
0–11	3.7*	4.9*	1.8*	2.9*	2.8*	1.5*
12	2.7*	3.2*	1.8*	2.4*	2.1*	1.5*
13–15	2.3*	1.8*	1.6*	2.1*	1.4*	1.5*
16+	1.0	1.0	1.0	1.0	1.0	1.0
Income						
Low	2.6*	3.4*	1.5*	1.5*	1.9*	1.2
Middle low	1.5*	2.3*	1.2	1.1	1.6*	1.0
Middle high	1.4*	1.6*	1.3*	1.0	1.2	1.1
High	1.0	1.0	1.0	1.0	1.0	1.0

Controlling for age, age squared, gender, race, & foreign birth. *p <.001.
(*Fred C. Pampel, Patrick M. Krueger, Justin T. Denney Socioeconomic Disparities in Health Behaviors Annu Rev Sociol. 2010 August; 36: 349–370)

Obesity and Mortality: Systematic Review of Studies (Flegal et al, JAMA, 2013)

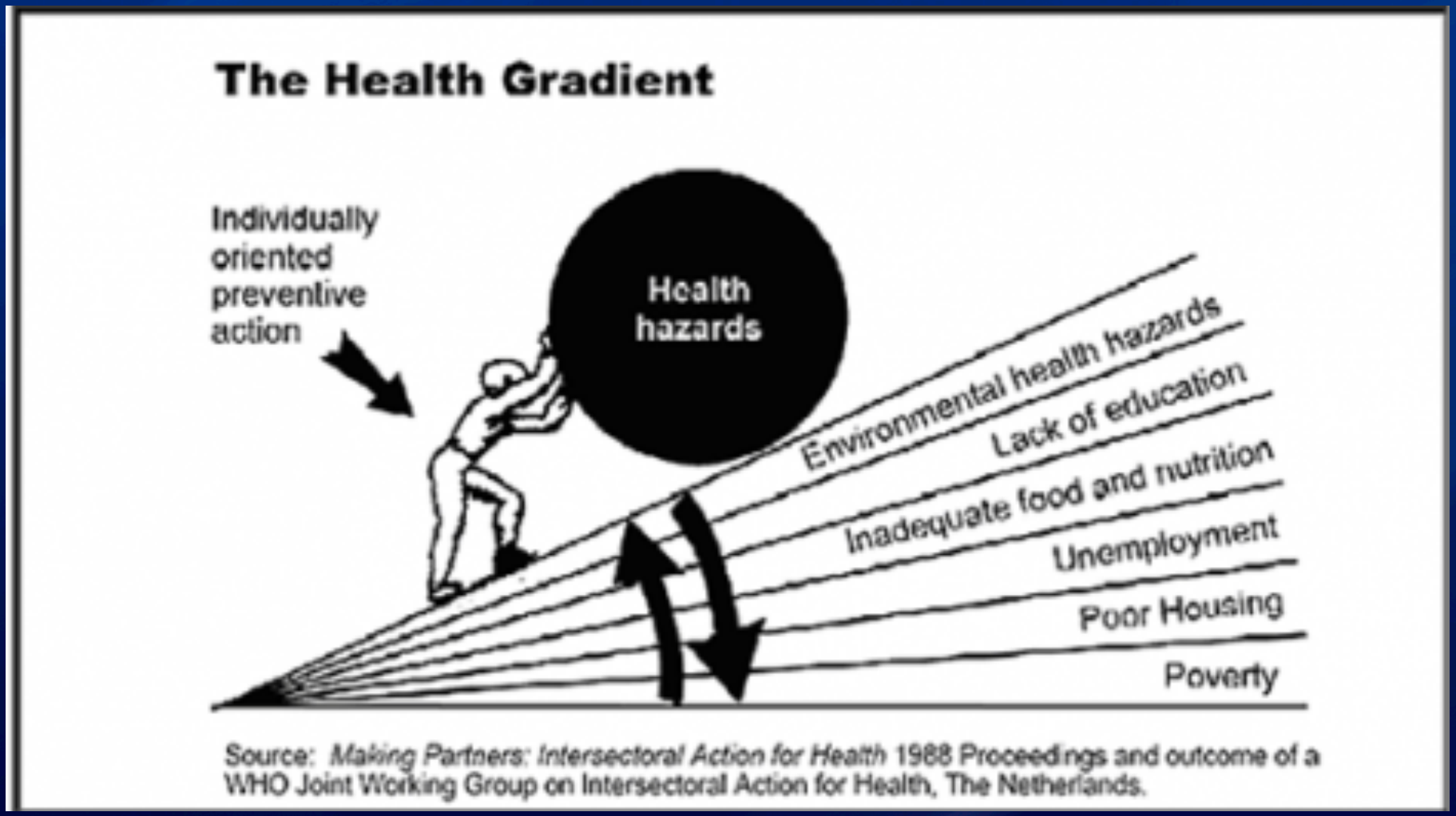
- BMI of ≥35 associated with significantly higher all-cause mortality.
- Grade 1 obesity (BMI of 30-<35)was not associated with higher mortality,
  - excess mortality in obesity may mostly be due to elevated mortality at higher BMI levels.
- Overweight (BMI of 25-<30) associated with significantly lower all-cause mortality

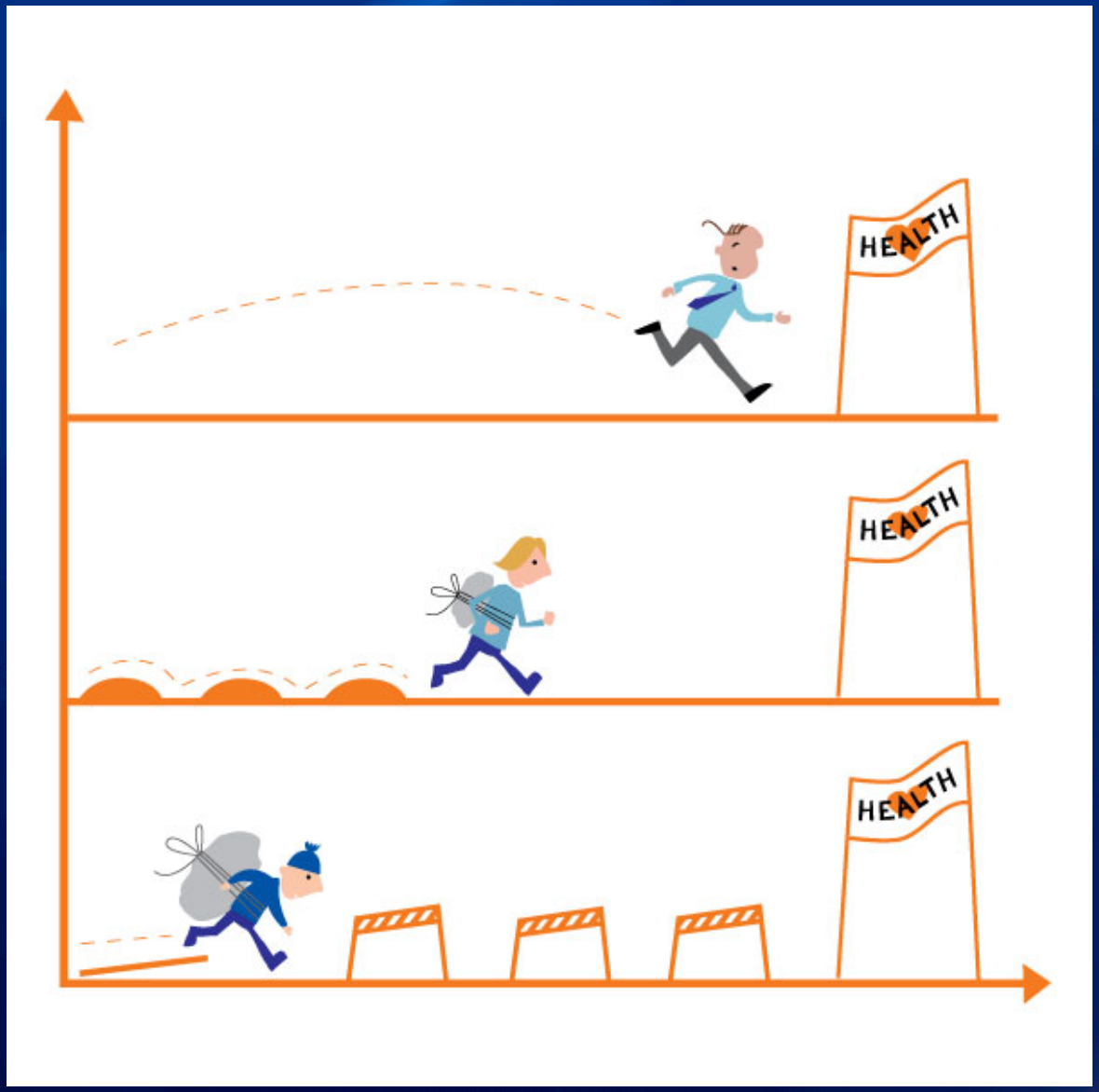
Flegal KM, Kit BK, Orpana H, Graubard BI. Association of All-Cause Mortality With Overweight and Obesity Using Standard Body Mass Index Categories: A Systematic Review and Meta-analysis. JAMA. 2013;309(1):71-82.

Where we live, work and play …affects our health-related behavior

- **The choices we make are shaped by the choices we have.**
- Some neighborhoods have easy access to fresh, affordable produce; others have only fast food joints and liquor and convenience stores.
- Some have nice homes; clean parks; safe places to walk, jog, bike or play; well-financed schools offering gym, art, music and after-school programs; some don't.

World Health Organization – how SES interferes with health and health promotion





Norwegian Ministry of Health and Care Services

http://www.regjeringen.no/en/dep/hod/documents/regpubl/stmeld/2006-2007/Report-No-20-2006-2007-to-the-Storting/2.html?id=466517

Where we live, work and play

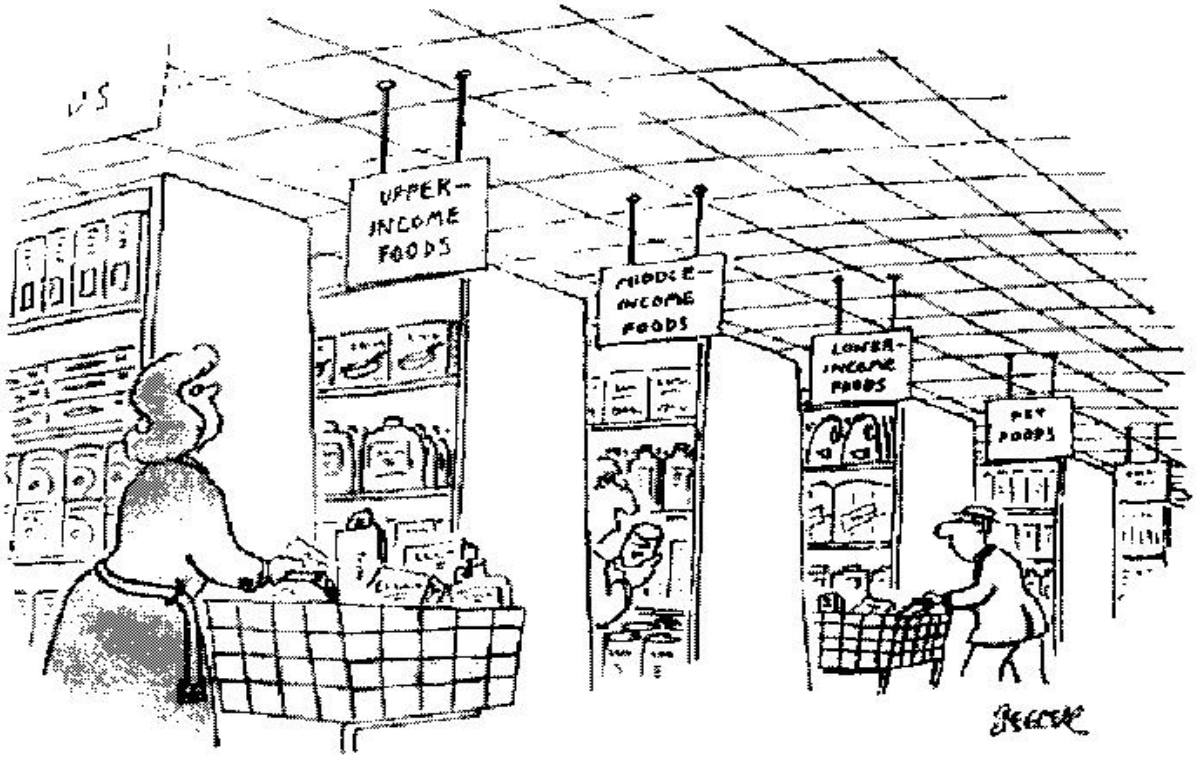
…affects our health-related behavior

Key Concept: A Food Desert is an area where healthy, affordable food is difficult to obtain. The main factor used to classify a community as a food desert is distance from nutritional food retailers.

Opportunity for healthy eating

- Limited access to healthy foods in poor communities.
- Easy availability and aggressive marketing of unhealthy foods.
- Higher relative price of healthy foods.

The local food environment



Where we live, work and play …affects our health-related behavior

Key Concept: An Obesogenic Environment is an environment that promotes gaining weight and one that is not conducive to weight loss within the home or workplace (Swinburn, et al., 1999).

In other words, the term obesogenic environment refers to an environment that facilitates, or contributes to, obesity.

Where we live, work and play …affects our health-related behavior

Key Concept: Food insecurity

"79% of households with children were food secure throughout the year in 2011, meaning that all the household members had consistent access to adequate food for active, healthy lives."

USDA Economic Research Service US Dept of Agriculture

Supplemental Materials: Food Prices and Health

Food prices have a statistically significant effect on BMI.

- Higher prices for soda, 100 percent juices, starchy vegetables, and sweet snacks are associated with lower BMIs among children.
- Lower prices for dark green vegetables and lowfat milk are associated with reduced BMI.
  (http://www.ers.usda.gov/media/123650/err118_reportsummary.pdf)
- Prices of vegetables, processed foods, whole milk and whole grains are significantly associated with blood cholesterol levels.
  - Ilya Rahkovsky, Christian A. Gregory, Food prices and blood cholesterol, Economics & Human Biology, Volume 11, Issue 1, January 2013, Pages 95-107,

Supplemental material: Chronic stress may explain part of the association between SES, race, stigma and unhealthy behavior

- Smoking, overeating, and inactivity represent forms of pleasure and relaxation that help regulate mood
- Stresses trigger a host of compulsive behaviors such as overeating, drinking, and smoking
- Documented higher smoking among persons in positions of high stress, including:
  - unemployed workers,
  - poor single women with childrearing duties and
  - smoking increases among poor performing students in more competitive schools

Supplemental material: Chronic stress may explain part of the association between SES, race, stigma and unhealthy behavior

- A stress index based on divorce, business failures, and natural disasters for U.S. states relates to state smoking prevalence.
- Perceived stress or biological stress markers found to be related to higher fat consumption and lower levels of physical activity.
- Workers with higher job stress also report problem drinking and heavy drinking more frequently, but only if they endorse statement that drinking is an effective strategy for coping with stress.

Child Development

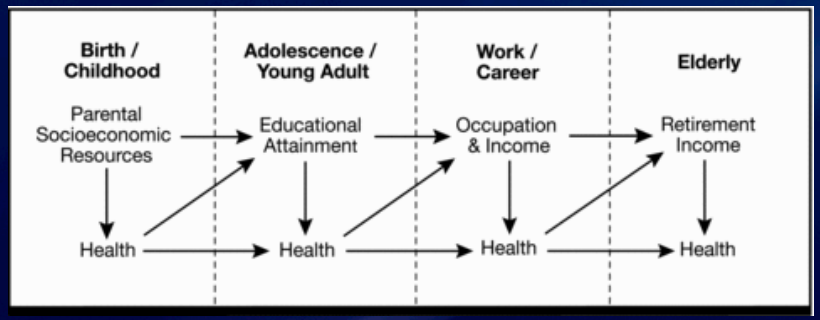
- SES exposures during childhood are also powerful predictors of adult physical health.
- Individuals with lower SES during childhood are at elevated risk of premature mortality, regardless of their socioeconomic circumstances during adulthood.
- Adult cardiovascular disease risk increases as the number of years throughout the life course (childhood included) spent in a low SES environment increases.

Supplemental Material

Child Development: Children Raised in Poverty

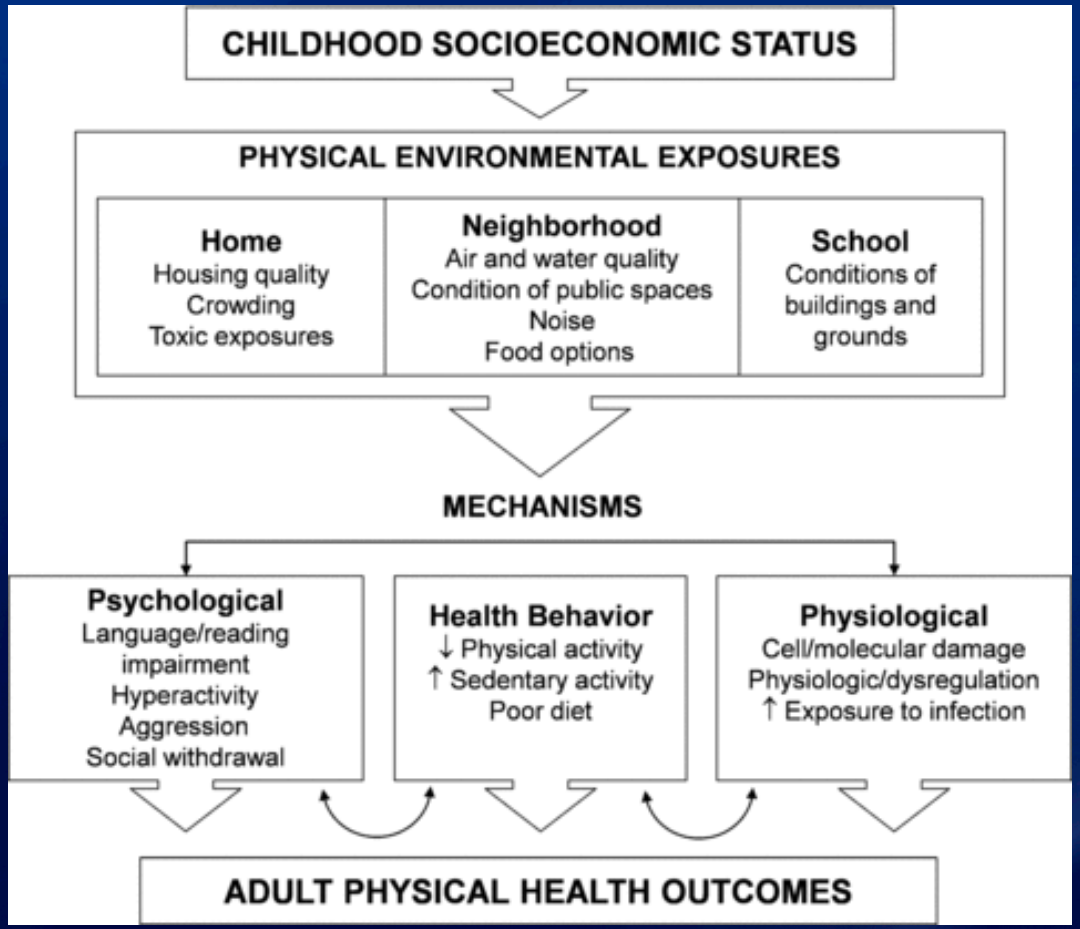
- **Have lower levels of educational attainment.**
  - more likely to score lower on standardized tests, be held back a grade, drop out of high school;
  - less likely to get a college degree;
  - attend schools with fewer resources;
  - suffer from poor nutrition, chronic stress, and other health problems that interfere with their school work; and
  - change residences and schools frequently as their families struggle to find affordable housing.

- **Have lower earnings and are more likely to live in poverty as adults.**



Annals of the New York Academy of Sciences Volume 1186, Issue 1, pages 5-23

Child Development: Examples of pathways that may link physical exposures associated with childhood and adolescent SES to adult health.



Annals of the New York Academy of Sciences
Volume 1186, Issue 1, pages 37-55, 16 FEB 2010 DOI: 10.1111/j.1749-6632.2009.05334.x
http://onlinelibrary.wiley.com/doi/10.1111/j.1749-6632.2009.05334.x/full#f1

Supplemental Materials: Child Development and Environmental Stressors

TASK PERFORMANCE:

-stressors interfere with tasks that require rapid detection, sustained attention, or attention to multiple sources of input

-memory for incidental or secondary information in a task is poorer under stressor conditions

-stressors cause faster processing of information in working memory but at the expense of total capacity

-also poorer comprehension of complex tasks

Supplemental Materials:
Child Development and Environmental Stressors

PHYSIOLGICAL EFFECTS:

Children who live in noisy environments have been shown to have elevated blood pressures and elevated levels of stress-induced hormones.

-increase in catecholamine and corticosteroid output found in blood or urine

-effects target organs associated with the activation of sympathetic arousal

-increased blood pressure, skin conductance, respiration rates, muscle tension and cardiac output

Supplemental Materials:
Differences in Level of effect

CHILDREN

-children may develop attentional strategies to cope with noisy environments and may lose the ability to discriminate between speech relevant and speech irrelevant cues

-children may be more susceptible to learned helplessness resulting from lack of control

Supplemental Materials:
Brain Development

- "You don't need a neuroscientist to tell you that less stress, more education and more support of all types for young families are needed, but seeing an image of the brain with specific regions highlighted where financial disadvantage results in less growth reframes the problems of childhood poverty as a public health issue not just an equal opportunity issue."
  Martha Farah, MD neuroscientist at U of Penn.
- Status and Stress, NYT, Moises Velasques-Manoff, 7/27/13

Where we live, work and play

Risk/Resilience factors: Social Support and Social Networks

- Overall, social ties are protective of health.
- Social isolation virulent health risk factor.
- For social support strongest association is with mental health.
- Resource - buffers impact of stressors.
- Social support has been found to vary positively with SES (but relatively small relationship).
- Social resources also vary by neighborhood SES.

Summary: How do SES and Race affect health?

SES and Race directly shape where people live, work and play, which affects:

- Nutrition & physical activity options;
- Housing quality;
- Neighborhood conditions;
- Environmental exposures;
- Stress due to inadequate resources to face daily challenges;
- Feelings of connection and engagement;
- Child development; brain development; and
- Access to and quality of medical care.

Parents' income and race shapes the next generation's:

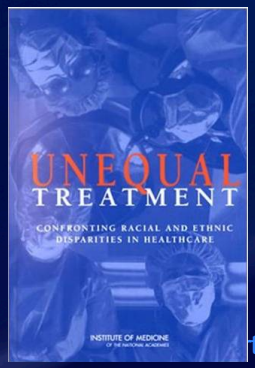
- Childhood development
- Educational opportunities, which shapes their
- Employment options
- Working conditions (physical & psychosocial)
- Income

Health Care

- Access to health care will not alone eliminate health disparities.
- It may work synergistically with improved social conditions to provide disadvantaged groups with better health outcomes.
- It is most important for the least healthy.

There Is Overwhelming Evidence Of Racial Inequities In Health Care.

- Over 900 peer-reviewed studies finding that Black adults and children are less likely to receive appropriate, guideline-concordant, and cutting-edge medical care than their White counterparts.
- Disparity persists independent of disease status and other clinically relevant factors.
- Most reports on Black/White differences, evidence for Hispanic, American Indian, and mixed evidence for Asian disadvantage.



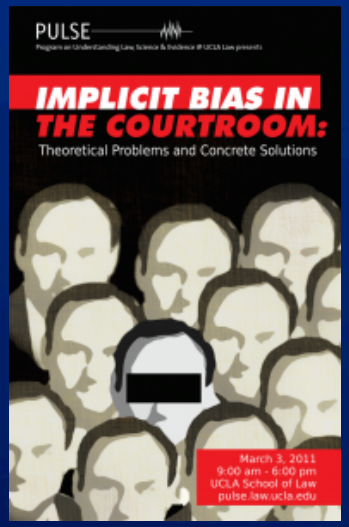
Racial Inequities In Health Care.

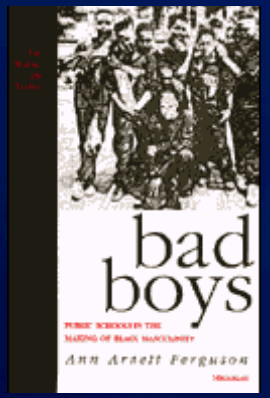
- Racial disparities are both mediated through and persist independently of:
  - lower access to health insurance,
  - lower average socioeconomic status (SES), and
  - lower likelihood of receiving care at high-performing medical care facilities.
- High SES, private health insurance, high performing health plans, and receipt of care at high-performing facilities, while beneficial, do not consistently have the same impact on quality of care for Black patients as they do for White patients. *Disparities persist controlling for patient refusal.*

Racial Inequities In Health Care.

- The Agency for Healthcare Research and Quality (AHRQ) issued a **National Healthcare Disparities Report** in 2005 and 2010.
- The 2010 report revealed no changes in disparities for:
  - 30 of 41 quality core measures for Hispanics,
  - 40 of 47 measures for African Americans,
  - 13 of 19 measures for Asians, and
  - 15 of 22 measures for American Indian or Alaska Natives.

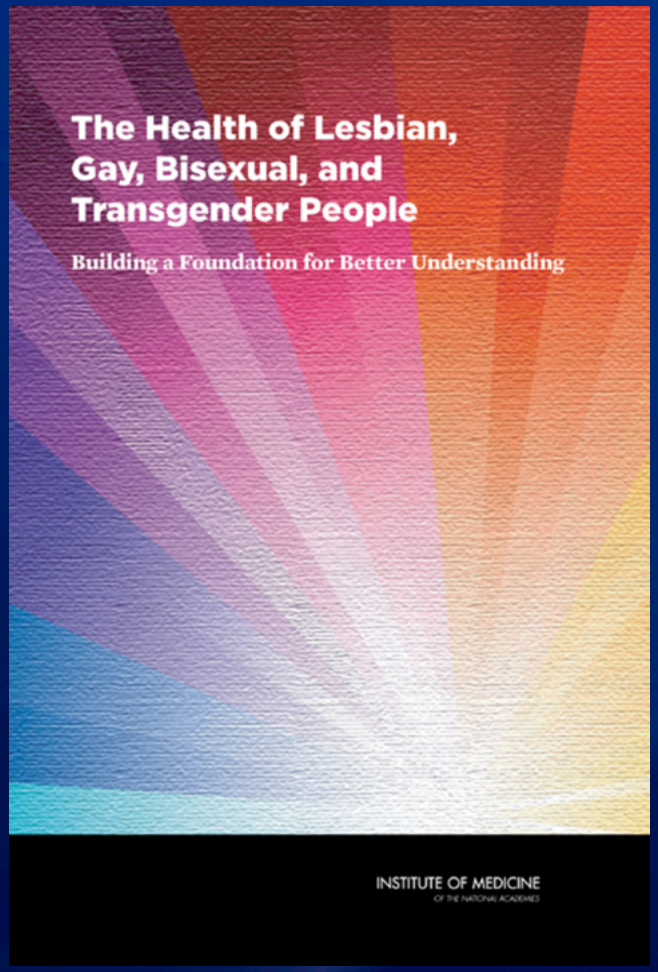
Racial bias documented across every sector of society





LGBT Patients

- "…GLBT individuals have reported experiencing stigma, prejudice and bias when seeking health care."
- "…barriers …is a lack of providers who are knowledgeable about LGBT health needs as well as a **fear of discrimination** in health care settings"



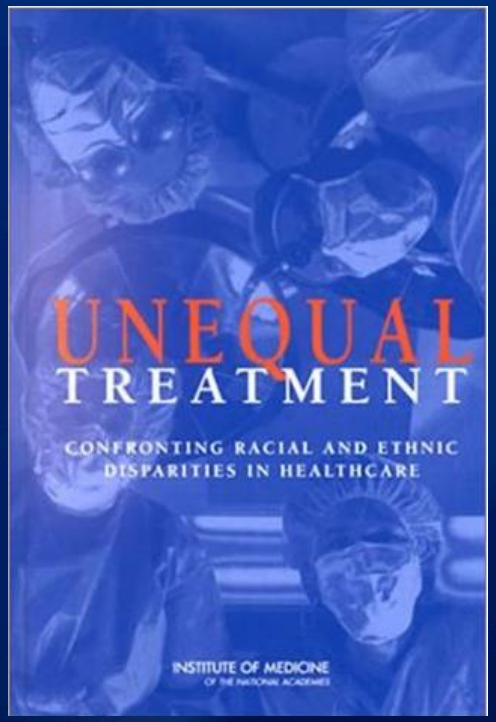
IOM, 2011

Obese Patients

- Medical students interacting with virtual patients had less visual contact, more negative stereo-typing, lower anticipated patient adherence, and attributed more responsibility for presenting complaints' to patient.
- Health professionals specializing in obesity, including kinesiology & exercise science students, demonstrate strongly negative attitudes towards obese individuals.

The IOM Position on Clinician Contribution to Disparities (1999)

- Clinician bias is one of several contributors to racial inequalities
- "…three psychological processes that may play particularly important roles in clinicians providing discriminatory patterns of healthcare:
  1. prejudice or bias against minorities,
  2. beliefs or stereotypes about the behavior or health of minorities,
  3. greater clinical uncertainty when interacting with minority patients."



Implicit Bias has been shown to affect physician behavior and encounter quality.

Increasing Empirical Evidence Indicating that Clinicians

1) Have same distribution on implicit racial bias as overall US population (80% have negative implicit attitudes towards blacks, higher towards obese)
2) Have implicit biases that persist independently of and in contrast to their explicit racial attitudes, and
3) Can be influenced by implicit bias in their
    1) clinical decision-making and
    2) Interpersonal behavior.
4) Implicit bias influences patient reaction and satisfaction.

Implicit biases can and do affect quality of care but they don't always and they don't have to.

- Skills and strategies for improving care and preventing bias:
  - Counter-stereotypic images and imagery
  - Emotional regulation skills
    - Increase positive emotions, reduce anxiety
  - Empathy skills (perspective-taking skills)
  - Partnership-building skills
  - Positive inter-group contact
  - Reducing patient stereotype-threat and increasing trust

- End/questions