

The Social Context of Breast Cancer: Evidence, Challenges and Implications

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African American Mortality

- For the 15 leading causes of death in the United States in 2001, Blacks had higher death rates than whites for:
 - Heart Disease
 - Cancer
 - Stroke
 - Diabetes
 - Kidney Diseases
 - Cirrhosis of the liver
 - Hypertension
- Blacks had lower death rates than whites for:
 - Respiratory Diseases
 - Alzheimer's Disease
 - Suicide

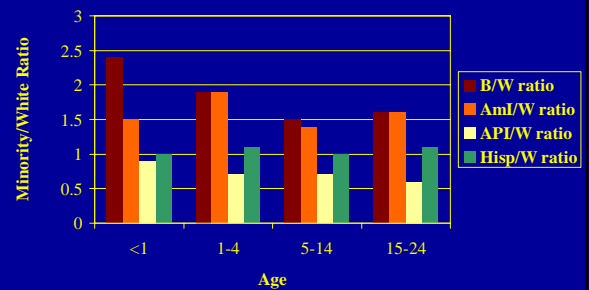
Source: NCHS 2003

Hispanic Mortality

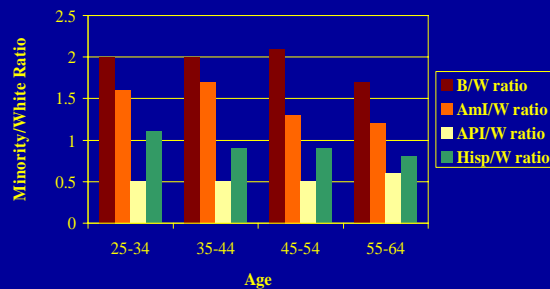
- For the 15 leading causes of death in the United States in 2001, Hispanics had higher death rates than whites for:
 - Diabetes
 - Cirrhosis of the liver
 - Hypertension
 - Homicide
- Hispanics had equivalent rates of kidney disease and lower death rates than whites for:
 - Heart Disease
 - Cancer
 - Stroke
 - Accidents
 - Respiratory Diseases
 - Flu and Pneumonia
 - Alzheimer's Disease
 - Septicemia
 - Suicide
 - Pneumonitis

Source: NCHS 2003

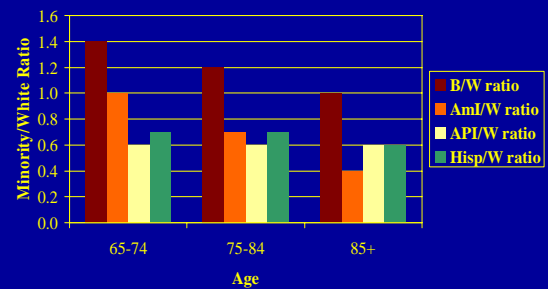
There Is a Racial Gap in Health in Early Life: Minority/White Mortality Ratios, 2000



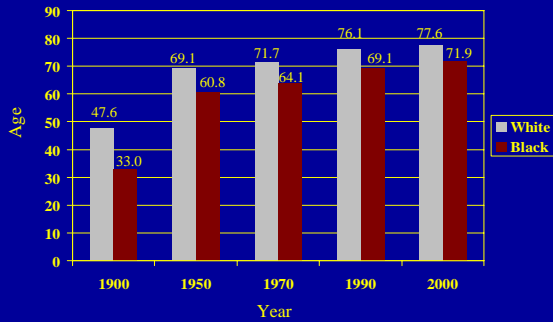
There Is a Racial Gap in Health in Mid Life: Minority/White Mortality Ratios, 2000



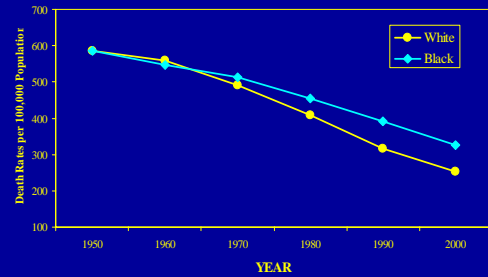
There Is a Racial Gap in Health in Late Life: Minority/White Mortality Ratios, 2000



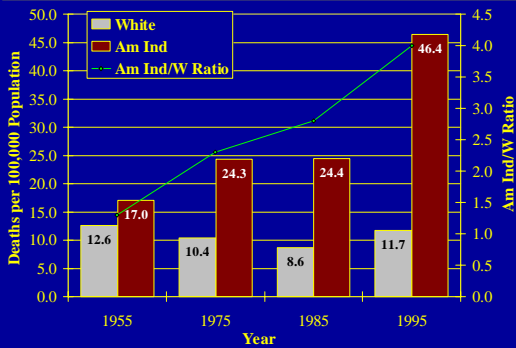
Life Expectancy at Birth, 1900-2000



Age-Adjusted Heart Disease Death Rates for Blacks and Whites, 1950-2000



American Indians Diabetes Death Rates, 1955-1995



Source: Indian Health Service; Trends in Indian Health 1998-99

Excess Deaths for Black Population

Year	Avg.No/Day	Avg.No/Year
1940	183	66,900
1950	144	52,700
1960	139	50,900
1970	198	72,200
1980	221	80,600
1990	285	103,900
1998	265	96,800

TOTAL Premature Deaths, 1940-1999 = 4,272,000

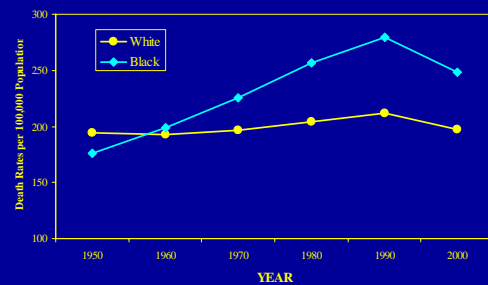
Levine et al. 2001

The Persistence of Racial Disparities

- We have FAILED!
- In spite of:
 - a War on Poverty
 - a Civil Rights revolution
 - Medicare & Medicaid
 - the Hill-Burton Act
 - Major advances in medical research & technology

We have made little progress in reducing the elevated death rates of blacks and American Indians relative to whites.

Age-Adjusted Cancer Death Rates for Blacks and Whites, 1950-2000

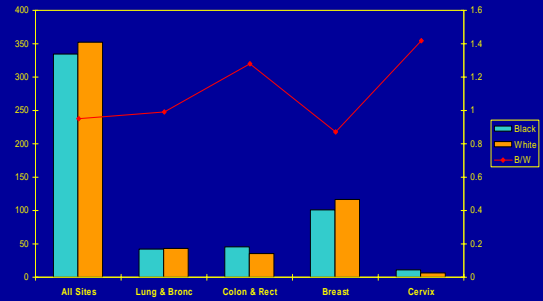


Specific Cancers, 1950-1992

- Cancer mortality rates increased for both blacks and whites for:
 - Lung and ovarian cancer
- Cancer mortality rates increased for blacks but were stable or declined for whites for:
 - Colorectal, breast, and prostate cancer

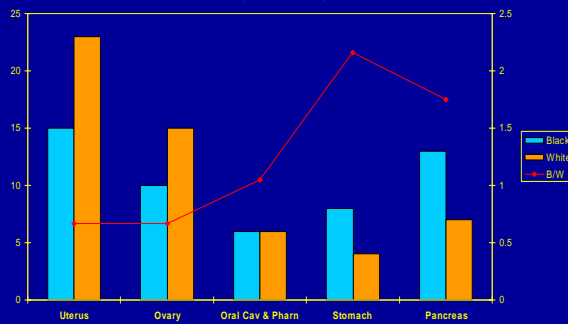
Piffath et al. 2001

Cancer Incidence Rates for Women



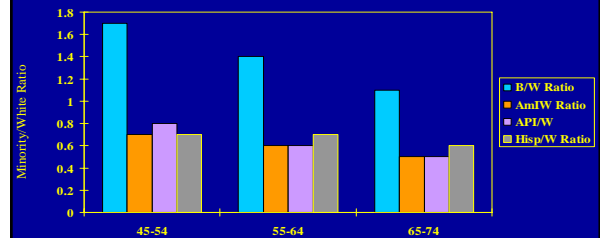
Source: NCHS, 2001: Age-Adjusted per 100,000 population

Cancer Incidence Rates for Women (cont'd.)



Source: NCHS, 2004: Age-Adjusted per 100,000 population

Death Rates for Breast Cancer, Women, 2004 Minority/White Ratios



Source: NCHS, 2006: Diff= Difference

Race and the Burden of Cancer

Compared to white women, Black women are less likely to get breast cancer, BUT are more likely

- to get breast cancer when young
- to be diagnosed at an advanced stage
- to have aggressive forms of breast cancer that are resistant to treatment
- to die from breast cancer

Race and Breast Cancer Severity

- Blacks are more likely to have aggressive, poor prognosis breast cancers
- WHI Study: Black women were 5 times more likely than whites to have high grade and ER (estrogen receptor) negative breast cancers
- Racial Differences in obesity is a partial explanation for poor prognosis cancers

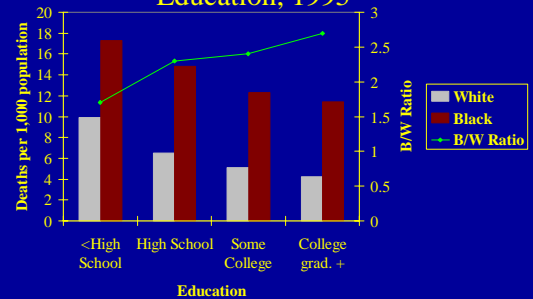
Chlebowski et al. 2005, JNCI

Triple Negative Breast Tumors

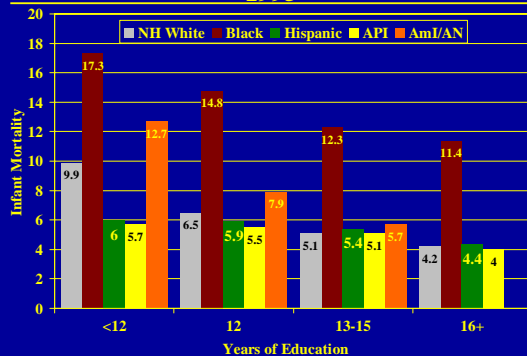
A recent California study found that triple negative tumors (grow quickly, recur more often, kill more frequently)

- Occur twice as often in black than white women
- Are more common in Hispanics than whites
- (are more common in West Africa)

Infant Death Rates by Mother's Education, 1995



Infant Mortality by Mother's Education, 1995



Understanding Elevated Health Risks

“Has anyone seen the SPIDER that is spinning this complex web of causation?”



Krieger, 1994

Racial Segregation Is ...

1. Myrdal (1944): ..."basic" to understanding racial inequality in America.
2. Kenneth Clark (1965): ...key to understanding racial inequality.
3. Kerner Commission (1968): ...the "linchpin" of U.S. race relations and the source of the large and growing racial inequality in SES.
4. John Cell (1982): ..."one of the most successful political ideologies" of the last century and "the dominant system of racial regulation and control" in the U.S.
5. Massey and Denton (1993): ..."the key structural factor for the perpetuation of Black poverty in the U.S." and the "missing link" in efforts to understand urban poverty.

How Segregation Can Affect Health

1. Segregation determines SES by affecting quality of education and employment opportunities.
2. Segregation can create pathogenic neighborhood and housing conditions.
3. Conditions linked to segregation can constrain the practice of health behaviors and encourage unhealthy ones.
4. Segregation can adversely affect access to medical care and to high-quality care.

Source: Williams & Collins, 2001

Race and Job Loss
Economic Downturn of 1990-1991

Racial Group	Net Gain or Loss
BLACKS	59,479 LOSS
WHITES	71,144 GAIN
ASIANS	55,104 GAIN
HISPANICS	60,040 GAIN

Source : Wall Street Journal analysis of EEOC reports of 35,242 companies

Race and Job Loss

Company	Percent Black		Reason
	Work Force	Losses	
Sears	16	54	Closed distribution centers in inner-cities; relocated to suburbs
Pet	14	35	Two Philadelphia plants shutdown
Coca-Cola	18	42	Reduced blue-collar workforce
American Cyanamid	11	25	Sold two facilities in the South
Safeway	9	16	Reduced part-time work; more suburban stores

Source: Sharpe, 1993; Wall Street Journal

Residential Segregation and SES

A study of the effects of segregation on young African American adults found that the elimination of segregation would erase black-white differences in

- Earnings
- High School Graduation Rate
- Unemployment

And reduce racial differences in single motherhood by two-thirds

Cutler, Glaeser & Vigdor, 1997

Segregation and Medical Care - I

- Pharmacies in segregated neighborhoods are less likely to have adequate medication supplies (Morrison et al. 2000)
- Hospitals in black neighborhoods are more likely to close (Buchmueller et al 2004; McLafferty, 1982; Whiteis, 1992).
- MDs are less likely to participate in Medicaid in racially segregated areas. Poverty concentration is unrelated to MD Medicaid participation (Greene et al. 2006)

Segregation and Medical Care -II

- Blacks are more likely than whites to reside in areas (segregated) where the quality of care is low (Baicker, et al 2004).
- African Americans receive most of their care from a small group of physicians who are less likely than other doctors to be board certified and are less able to provide high quality care and referral to specialty care (Bach, et al. 2004).

Racial Differences in Residential Environment

- In the 171 largest cities in the U.S., there is not even one city where whites live in ecological equality to blacks in terms of poverty rates or rates of single-parent households.
- “The worst urban context in which whites reside is considerably better than the average context of black communities.” p.41

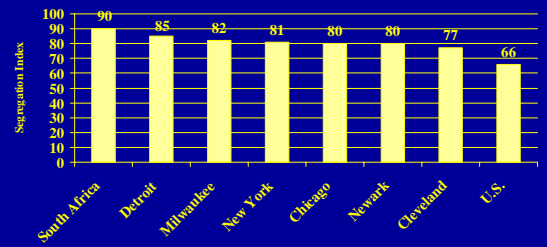
Source: Sampson & Wilson 1995

Segregation: Distinctive for Blacks

- Blacks are more segregated than any other group
- Segregation varies by income for Latinos & Asians, but high at all levels of income for blacks.
- Wealthiest blacks (> \$50K) are more segregated than the poorest Latinos & Asians (< \$15,000).
- Middle class blacks live in poorer areas than whites of similar SES and poor whites live in better areas than poor blacks.
- Blacks show a higher preference for residing in integrated areas than any other group.

Source: Massey 2001

American Apartheid: South Africa (de jure) in 1991 & U.S. (de facto) in 2000



Source: Massey 2001, Iceland et al. 2002, Glaeser & Vigdor 2001

Research Implications: Distinctive Patterns?

- What effects do these distinctive residential environments have on normal physiological processes?
- How are normal adaptive and regulatory systems affected by blacks' harsh residential environment? Due to biological adaptations to their residential environments, should we not expect to find some biological profiles that are different and some distinctive patterns of interactions (between biological and psychosocial factors) for African Americans?

Segregation and Stress

The concentrated poverty and cumulation of disadvantage that characterizes segregated neighborhoods leads to increase exposure to crime, violence and a broad range of other stressors

Segregation & Economic Stress

Poor persons from disadvantaged racial/ethnic backgrounds are poorer than the white poor

Race/Ethnicity and Wealth, 2000 Median Net Worth

Income	White	Black	Hispanic
All	\$79,400	\$7,500	\$9,750
Excl. Hm. Eq.	22,566	1,166	1,850
Poorest 20%	24,000	57	500
2 nd Quintile	48,500	5,275	5,670
3 rd Quintile	59,500	11,500	11,200
4 th Quintile	92,842	32,600	36,225
Richest 20%	208,023	65,141	73,032

Source: Orzechowski & Sepielli 2003, U.S. Census

Wealth of Whites and of Minorities per \$1 of Whites, 2000

Household Income	White	B/W	Hisp/W
	Ratio		
Total	\$ 79,400	9¢	12¢
Poorest 20%	\$ 24,000	1¢	2¢
2 nd Quintile	\$ 48,500	11¢	12¢
3 rd Quintile	\$ 59,500	19¢	19¢
4 th Quintile	\$ 92,842	35¢	39¢
Richest 20%	\$ 208,023	31¢	35¢

Source: Orzechowski & Sepielli 2003, U.S. Census

Race and Economic Hardship, 1995

African Americans were more likely than whites to experience the following hardships ¹:

1. Unable to meet essential expenses
2. Unable to pay full rent on mortgage
3. Unable to pay full utility bill
4. Had utilities shut off
5. Had telephone shut off
6. Evicted from apartment

¹ After adjustment for income, education, employment status, transfer payments, home ownership, gender, marital status, children, disability, health insurance and residential mobility.

Bauman 1998; SIPP

Perceived Discrimination:

*Experiences of discrimination
may be a neglected psychosocial
stressor*

Race, Criminal Record, and Jobs

- Pairs of young, well-groomed, well-spoken college men with identical resumes apply for 350 advertised entry-level jobs in Milwaukee, Wisconsin. Two teams were black and two were white. In each team, one said that he had served an 18-month prison sentence for cocaine possession.
- The study found that it was easier for a white male with a felony conviction to get a job than a black male whose record was clean.

Source: Devan Pager, NYT March 20, 2004

Percent of Job Applicants Receiving a Callback

Criminal Record	White	Black
No	34%	14%
Yes	17%	5%

Source: Devan Pager, NYT March 20, 2004

"...Discrimination is a hellhound that gnaws at Negroes in every waking moment of their lives declaring that the lie of their inferiority is accepted as the truth in the society dominating them."

Martin Luther King, Jr. [1967]

Recent Review

- Identified 138 empirical studies
- 65% (n=89) published between 2000-2004
- 86% in U.S., but 20 studies from Europe, Canada, Australia/New Zealand and the Caribbean
- After adjustment for confounders, discrimination tends to be associated with poor health
- Similar to the literature on stress, consistent inverse association more often found for measures of mental health than physical health

Paradies, 2006; International Journal of Epidemiology

Discrimination and Disparities in Health

Perceptions of discrimination have been shown to account for some of the racial differences in:

- self-reported physical health in the U.S. (Williams, et al., 1997; Ren, et al., 1999) and New Zealand (Harris et al. 2006)
- birth outcomes (Mustillo et al. 2004).

Arab American Birth Outcomes

- Well-documented increase in discrimination and harassment of Arab Americans after 9/11/2001
- Arab American women in California had an increased risk of low birthweight and preterm birth in the 6 months after Sept. 11 compared to pre-Sept. 11
- Other women in California had no change in birth outcome risk, pre-and post-September 11

Lauderdale, 2006

Every Day Discrimination

In your day-to-day life how often have any of the following things happened to you?

- You are treated with less courtesy than other people.
- You are treated with less respect than other people.
- You receive poorer service than other people at restaurants or stores.
- People act as if they think you are not smart.
- People act as if they are afraid of you.
- People act as if they think you are dishonest.
- People act as if they're better than you are.
- You are called names or insulted.
- You are threatened or harassed.

Everyday Discrimination and Subclinical Disease

In the study of Women's Health Across the Nation (SWAN):

- Everyday Discrimination was positively related to subclinical carotid artery disease (IMT; intima-media thickness) for black but not white women
- chronic exposure to discrimination over 5 years was positively related to coronary artery calcification (CAC)

Troxel et al. 2003; Lewis et al. 2006

Discrimination and Health Care Behaviors

Recent studies indicate that experiences of discrimination are associated with:

- Delays in seeking treatment
- Lower adherence to treatment regimes
- Lower rates of follow-up

Inequities in Medical Care

- Minority women receive fewer mammograms
- Black women tend to get diagnosis of breast cancer after the cancer has already spread
- Black women receive less aggressive treatment

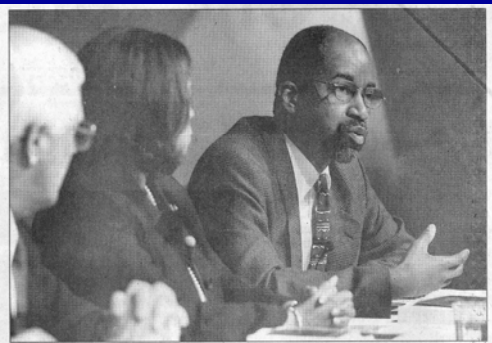
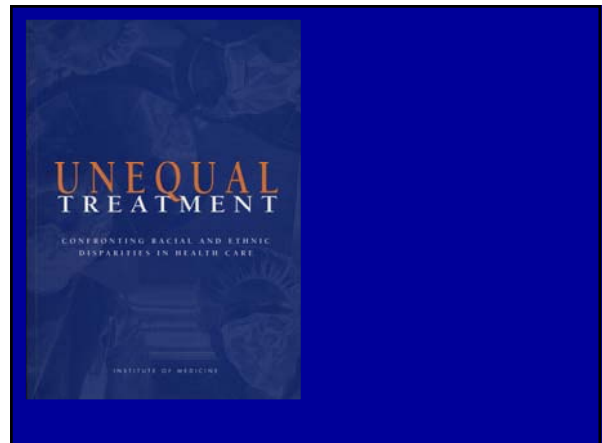
The Effect of Race and Sex on Physicians' Recommendations for Cardiac Catheterization

- 720 physicians viewed recorded interviews
- Reviewed data about a hypothetical patient
- The physicians then made recommendations about that patient's care



The Effect of Race and Sex on Physicians' Recommendations for Cardiac Catheterization

- Women (OR =0.60) and blacks (OR =0.60) were less likely to be referred for cardiac catheterization than men and whites, respectively.
- Black women were significantly less likely to be referred for catheterization than white men (OR= 0.4)



David Williams, a University of Michigan professor, right, says: "We have a health care system that is the pride of the world, but this report documents that the playing field is not even."

Race and Medical Care

- Across virtually every therapeutic intervention, ranging from high technology procedures to the most elementary forms of diagnostic and treatment interventions, minorities receive fewer procedures and poorer quality medical care than whites.
- These differences persist even after differences in health insurance, SES, stage and severity of disease, co-morbidity, and the type of medical facility are taken into account.
- Moreover, they persist in contexts such as Medicare and the VA Health System, where differences in economic status and insurance coverage are minimized.

Institute of Medicine, 2002

Race and Cancer

Compared to Whites, Black breast cancer patients were:

- Less likely to have health insurance
- Less likely to be treated by experienced board-certified MD
- More likely to be treated in large public hospitals

Source: Diehr et al. 1989. Study of 7,781 in 107 hospitals

Race and Cancer (Cont)

Adjusting for these factors, blacks were less likely than whites to receive:

- appropriate prognostic test (progesterone receptor assay)
- radiation therapy in combination with radical/modified mastectomy
- rehabilitation support services after a mastectomy

Source: Diehr et al. 1989. Study of 7,781 in 107 hospitals

Ethnicity and Analgesia

A chart review of 139 patients with isolated long-bone fracture at UCLA Emergency Department (ED):

- All patients aged 15 to 55 years, had the injury within 6 hours of ER visit, had no alcohol intoxication.
- 55% of Hispanics received no analgesic compared to 26% of non-Hispanic whites.
- With simultaneous adjustment for sex, primary language, insurance status, occupational injury, time of presentation, total time in ED, fracture reduction and hospital admission, Hispanic ethnicity was the strongest predictor of no analgesia.
- After adjustment for all factors, Hispanics were 7.5 times more likely than non-Hispanic whites to receive no analgesia.

Source: Todd, et al. 1993

Disparities in the Clinical Encounter: The Core Paradox

How could well-meaning and highly educated health professionals, working in their usual circumstances with diverse populations of patients, create a pattern of care that appears to be discriminatory?

Whites' Stereotypes of Blacks (and Whites)

	%	
1. Lazy		
Blacks are lazy	44	(5)
Neither	34	(36)
Blacks are hard working	17	(55)
2. Violent		
Blacks are prone to violence	51	(16)
Neither	28	(42)
Blacks are not prone to violence	15	(37)
3. Unintelligent		
Blacks are unintelligent	29	(6)
Neither	45	(33)
Blacks are intelligent	20	(55)
4. Welfare		
Blacks prefer to live off welfare	56	(4)
Neither	27	(22)
Blacks prefer to be self-supporting	13	(71)

Source: 1990 General Social Survey

White Americans' Stereotypes Percent Agreeing that Most Group Members Prefer to Live off Welfare

	Whites	Blacks	Hispanics	Asians	Jews	Southern Whites
Prefer to Live off Welfare	3.7	56.1	41.6	16.3	2.4	12.9
Neither	21.5	26.5	30.5	31.6	14.6	35.2
Prefer to be Self-Supporting	70.5	12.7	18.3	40.6	75.7	41.4
DK/NA	4.3	4.7	9.7	11.5	7.3	10.5

Source: General Social Survey 1990

Unconscious Discrimination

- When one holds a negative stereotype about a group and meets someone who fits the stereotype s/he will discriminate against that individual
 - Stereotype-linked bias is an
 - Automatic process
 - Unconscious process
 - It occurs even among persons who are not prejudiced
-

“I am not racist: I know I don’t stereotype”

- Conclusive evidence that stereotypes are activated automatically (without intent).
 - Individuals frequently are not aware of activation nor impact on their perceptions, emotions and behavior.
 - They are activated more quickly and effortlessly than conscious cognition.
 - Many cognitive processes result in confirmation of expectancies (we process information in ways that support our beliefs).
-

Source: van Ryn, 2003

Factors that Increase Stereotype Usage

- Time Pressure
- Need for Quick Judgments
- High Cognitive demands
- Task Complexity
- Resource constraints
- Anger or Anxiety

Medical Encounter: Time pressure, brief encounters, need to manage complex cognitive tasks.

Source: van Ryn 2002

Generalizability of Unconscious Bias

- An important characteristic of social interaction across a broad range of cultures and societies where individuals are characterized into social groups
 - In the U.S., race, sex and age are the three primary characteristics of individuals that are attended to across a broad range of social contexts
-

Possible Solutions

- Individuals who hold egalitarian beliefs are less likely to activate negative stereotypes (implicit beliefs) when exposed to neutral (but not negative) stimuli.
 - Under certain conditions individuals can consciously replace automatically activated stereotype with egalitarian response:
 - Must be aware of potential for judgment, emotions and behaviors to be biased.
 - Have awareness of stereotype activation
 - Have high level of motivation
 - Have sufficient cognitive resources (time and cognitive capacity).
-

Source: Blair 2001

Possible Solutions

- The promotion of counter-stereotypes may have beneficial effects.
 - Counter-stereotype mental imagery (e.g. imagining a strong woman) can influence the activation of implicit gender stereotype
 - Requires time, effort, cognitive resources
-

Source: Blair 2001

Possible Solutions

- **Perspective-taking can reduce stereotypes and prejudice.** (Compared to a no-instruction control group and a "stereotype suppression group" that was instructed to actively try to avoid thinking about the person in a stereotypic manner.)
- **For example, whites who wrote about a day in the life of an elderly or black person, showed less explicit and implicit stereotyping.**
 - "imagine a day in the life of this individual as if you were that person, looking at the world through his eyes and walking through the world in his shoes."

Source: Van Ryn and Burgess 2003 (JPSP)

Conclusions-1

- **SES is one of the strongest known determinants of health**
- **Two-thirds of all poor persons in the U.S. are white so the problems of economic disadvantage transcend race and affect the health of the entire nation**
- **The health problems of individuals must be understood, and can only be effectively addressed in the context of the challenges of their lives**
- **Interventions to reduce stress and helping clients deal with the challenges of their socioeconomic context can affect the success of behavioral interventions and pharmacologic treatments**

Conclusions-2

- **Become an agent of change by being conscious of, and speaking out against, both subtle and blatant forms of bias in health care delivery**
- **Consciously monitor deep-seated personal stereotyping, whether bias is conscious or unconscious its adverse impact on patients is real**
- **Avoid judging "the book by its cover." Be cautious about applying 'skin color' or other social or physical characteristics for measuring sociocultural variables**
- **Seek out opportunities for becoming better informed about the specific attributes of other cultures, but remember that there is great diversity within each cultural group.**

Conclusions-3

- **We need to reduce inequalities in health care access and quality**
 - Emphasize the prevention of illness
 - Provide effective treatment
- **We need to reduce inequalities in health**
 - Address underlying non-medical determinants of health
 - Develop policies which improve health overall and also target vulnerable populations.

MLK Quote

"Of all the forms of inequality, injustice in health care is the most shocking and inhumane"

--Martin Luther King Jr.
