Mechanisms for Explaining Health and Health Care Disparities:
Implications for measures and methods
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Goal
- To identify mechanisms that explain the differential distribution of health and health care by race and ethnicity

Objectives
- Specify individual and contextual constructs that offer explanatory potential
- Describe emerging measures and methods in studies of health disparities
- Provide methods for clarifying concepts to enable their application

Expanding Frameworks to Reflect Diverse Communities
- Constructs that are salient among specific ethnic groups may be missing
  - needed to add “discrimination” as crucial domain of quality of health care
- Constructs may not be relevant or may be poorly defined for an ethnic group
  - reporting depression via affect, thought patterns inappropriate for Asians—public expressions of self-reflection discouraged

Deconstructing Race and Social Class
- Begin to identify more specific variables that mediate the effects of race on health outcomes
- Developing more specific indicators is necessary for developing effective interventions to decrease disparities

Institutional Racism Framework
King, G. 1996 Ethn & Dis;6:30-46
Evolving Health Disparities Research
- Large administrative and clinical data sets to document disparities in access, utilization and outcomes
- Examination of patient-, clinician- and system-level factors that mediate effects of race/ethnicity on outcomes
- Finally, specific, modifiable interventions to reduce disparities

Promising Constructs for Health Disparities Research
- Physiological
- Psychological
- Social environment
- Physical environment
- Social class
- Community resources
- Health care

Physiological
- Co-morbidity
- Stress reactivity
- Allostatic load-weathering hypothesis

Comorbidity
- Poorer survival of African American HIV+ veterans related to comorbid conditions

Stress Reactivity
- Exposure to racial stressors under laboratory conditions predicts cardiovascular reactivity, which is in turn related to long-term cardiovascular risk

Allostatic Load
- Weathering hypothesis: effects of social inequality on health compound with age leading to growing gaps
- Magnitude of black/white disparity in neonatal mortality widens with increasing maternal age

Ibrahim S A 2001 AJPH;93:1619
McGinnis K A 2003 AJPH;93:1728
Psychological
- Control, fatalism, helplessness
- Optimism
- Self-efficacy
- Self-esteem

Optimism and Fatalism
- Optimists show quicker recovery from coronary bypass surgery and have less angina
  Fitzgerald TE 1993 J Behav Med;16:25
- Fatalistic beliefs were independent predictors of Pap smear use among Latinas but not White women

Physical Environment
- Neighborhood safety
- Quality of housing
- Traffic
- Segregation
- Hazardous materials
- Occupational hazards

Social Environment
- Social opportunities
- Family environment
- Social support
- Perceived discrimination
- Religious involvement
- Participation in groups

Social Class
- Social stratification
- Perceived inequality
- Education
- Language ability and literacy
- Income, wealth
Community Resources
- Transportation
- Exercise venues
- Neighborhood stability and political clout
- Religious institutions
- Social services

Health Care
- Access
- Continuity
- Quality
- Cultural and linguistic competence
- Discrimination
- Satisfaction

Disparities in utilization
- Analysis of 3 national data sets found disparities in use of health care services increased from 1977-96, especially for Latinos
- 50-70% of disparities would remain if disparities in income and insurance coverage were eliminated (Weinick et al. 2000 MCR&R; 57 suppl 1:36-54)
- Universal health insurance insufficient remedy for disparities

Potential mechanisms for utilization disparities
- Minorities more likely to receive care at safety net clinicians, hospital outpatient and ED—more organizational barriers
- Low-income neighborhoods with fewer medical and health resources
- Long-term individual experiences of inaccessible and poor quality health care

Mechanisms-Individual Level
- Lifestyle factors
- Self-efficacy
- Sense of control

Mechanisms-Individual Level
- Self-efficacy is critical to people’s ability to initiate and maintain positive health habits, e.g. exercise, breast self-exam, smoking cessation and control of alcohol consumption (Taylor SE. 1999 Health Psychology)
Mechanisms – Context
Communities
- Geographical clustering of homicide, low birth weight, accidental injury, infant mortality and suicide
- Adjusting for age and sex, mortality 50% higher in areas of poverty, deteriorated housing (Yen and Kaplan, 1999 AJE; 149:989-907)
- Collective properties of communities and social processes

Mechanisms – Context
Neighborhoods
- Moving to Opportunity-random assignment of housing project residents in 5 cities to 3 conditions: subsidies to move to low poverty area; conventional Section 8 assistance; no assistance (Singer and Ryff, New Horizons in Health, 2001)
- move to area with less poverty - better general and mental health, lower prevalence of injuries, asthma attacks, victimization (Katz, 1999)

Mechanisms – Context
Social environment
- Is it level of safety, housing quality, social support?
- Social processes: mutual trust among residents, shared expectations, density of social network, reciprocal exchange of information, social control of public space, institutional resources

Mechanisms – Context
Social environment
- Collective efficacy-index of informal social control and social cohesion
- "Collective efficacy" predicted rates of violence in 300 Chicago neighborhoods after controlling for poverty, residential stability, immigrant concentration, and individual-level age, sex, SES, race, home ownership (Sampson et al. Science, 1997;277:918-24)

Public Health Approaches
- Standardized “benchmark” assessment of collective health of communities
- "Sustainable Seattle project" 40 indicators across 5 areas: environment, population and resources, economy, youth and education, and community health
- To study dynamics of change in communities (Singer and Ryff, New Horizons in Health, 2001)

Public Health Approaches
- Prevention strategies that target aggregate-level health by changing social and community environments (Singer and Ryff, New Horizons in Health, 2001)
  - No smoking ordinances
  - Taxation policies
  - Smog control legislation
  - Food labeling
Research Approaches
- Longitudinal studies that focus on person-environment interactions
  - 3 measures of stress related to onset of respiratory illness, especially those of longer duration (Cohen, et al. 1991;NEJM 325:606-12)
  - Race and income are not significant predictors of disease in areas of concentrated disadvantage (Yen and Syme. 1999 Ann Review of PH:20, 287-308)

Investigation of contextual factors as mediators of health or disease outcomes (Singer and Ryff, New Horizons in Health, 2001)
- Mortality significantly lower among persons more socially integrated (Berkman 1999, Psychosomatic Med;57:245-254)

Research Methods: Cultural Epidemiology
- Combination of methodological approaches
  - Qualitative methods - individual belief systems, cultural norms and cognitions about health
  - Epidemiology - social and economic causes (Angel and Williams. Cultural models of health and illness in Handbook of Multicultural Mental Health, 2000)

Recommendation 1
- Use qualitative methods to explore relevance and adequacy of constructs
  - By expanding the definitions of constructs, can develop better measures that are meaningful across groups
  - May identify constructs with increased explanatory power

Recommendation 2
- Use qualitative and quantitative methods in iterative manner
  - Qualitative before administer or develop questionnaire to explore concepts
  - Quantitative to assess reliability, validity and explanatory power of measures across groups
  - Qualitative to diagnose why measures failed

Conclusions
- Expansion of models to include social environmental risk factors
  - Examine differential distribution of risks, hazards, power, resources, rewards that affect health
  - Include target population in identification of problems, solutions
Concept Clarification

Example 1: Culture

- Poorly defined construct: culture and the medical encounter
  - Most studies of cultural influences on medical encounter focus on SES, gender, language and racial concordance
  - Examples:
    - Culture-difficult to operationalize
    - Core cultural competencies lack clear definitions and evidence base

Difficult to operationalize

- Multi-dimensional
- Multi-directional
- Cultural factors operate at the individual and group levels
- Encompasses behaviors, attitudes and values

How Cultural Values Affect Blood Pressure

- Values of materialism beyond means
- Values of individualism, competition

(p. 246 AJPH)

14 CLAS Standards

- 4 of 14 are mandates (vs guidelines or recs) for language capacity, not culture
- How do we develop measures of cultural competence?
- Can you ask patients "what is cultural competence?"

Meanings of culture and its impact on medical visits

Methods

- 19 focus groups stratified by ethnicity (AA, L, WH) and age (<50, >50)
- Open-ended questions with probes
  - What does the word "culture" mean to you?
  - What do or don’t your doctors understand about your culture or health beliefs that might affect your visits?
Meanings of culture

- Varied definitions reflecting historical, social, economic and political contexts
- Themes: values, manifest customs, self-identified ethnicity, shared experiences, nationality, discrimination, language

Discrimination

“Sometimes being a minority as they call it, is not so good…you get treated different. You know what I’m saying, even by other minorities.”

(AA male < age 50)

Shared experiences

“Our culture is staying clean…it means staying away from an addiction that could or will eventually kill us…We don’t have a religion or ethnicity. All we have is we’ve been through the school of hard knocks and come out alive.”

(WH male < age 50)

Culture and the medical visit

- CAM
- Language
- Health insurance discrimination
- Ethnic discrimination
- Social class discrimination
- Ethnicity of the physician
- Modesty
- Immigration
- Age discrimination
- Nutrition
- Spirituality
- Family
- Submissiveness to MD
- Doctor culture

Ethnicity-based discrimination

“You get some type of bad vibe, or it’s the way a doctor treats you or might pick up something that you’ve touched. Sometimes…jumpy; when I moved the doctor sort of made sure he was a slight distance from me. It’s a doctor that’s prejudiced.”

(AA woman < age 50)

Social-class based discrimination

“In order for me to feel more comfortable with a doctor, I would like it if they didn’t assume so much. He assumed that I didn’t - actually that I COULD not understand some scientific principles.”

(AA woman < age 50)

Doctor culture

“One of the strongest cultures in the room is the doctor culture in the sense that they have been trained to think certain ways, consider certain treatments for ailments. Relating to that culture is one of the big challenges in terms of the relationship. The doctor looks at a problem as a very objective thin, whereas we look at it as very personal.”

(WH man < age 50)
Example 2: Perceived Discrimination

Concept of Perceived Racism
- Perceived Racism has its own conceptual framework
- Multi-dimensional

Basic Components of Concept of Racism/Discrimination
- Experiences of Racism
  - Emotional response
  - Cognitive attribution of event
  - Physiological response
  - Context
    - Personality
    - Social support
    - Cultural context
    - Feelings of control
  - Coping (behavioral response)
    - Maladaptive
    - Adaptive
- Health

Conceptual Issues
- Is exposure to racism similar to exposure to stress or trauma?
  - We have research on relationship of stress and trauma to health
- Is it actual exposure, perceived exposure, or responses to perceived exposure?
- Consider interrelationships and interactions among multiple sources of racism and other stressors
  (Krieger, N. AJPH, 2003:93:194-9)
**Plausible Mechanisms by Which Racism Affects Health**
- Experiences of racism lead to negative emotional responses ....
- Which lead to physiological and/or behavioral responses ....
- Which can adversely affect health
- How people confront racism
- How people adapt to racism

**Emotional and Behavioral Responses**
- Poor mental health is the most often observed outcome of racism/discrimination
- Maladaptive coping often involves smoking, substance abuse, inactivity, overeating

**Concepts of Coping with Racism**
- Is it coping styles in general or coping specifically with racism that affects health?
- Different conceptualizations in measures
  - Adaptive and maladaptive coping
  - Active and passive coping
- Passive coping
  - Is “doing nothing” the same as “acceptance”
  - Coping style could differ by domain
  - Different coping response on job than in public

**Physiological Responses to Racism: Promising Potential Mechanism**
- Higher blood pressure associated with tendency NOT to recall or report racial or discriminatory events
- Laboratory studies
  - Monitor physiological responses when describing racist experiences
  - Create a racially-charged encounter and compare responses to it and to nonracial stressful events

**Biopsychosocial Effects of Perceived Racism on Health**
- Constitutional, Sociodemographic, Psychological, Behavioral factors
- Environmental stimulus
- Perception
  - Perception of racism
  - Perception of different stressor
- No perception of racism or other stressor
- Coping responses
  - Psychological and physiological stress responses
  - Health outcomes
- Blunted or no psychological and physiological stress responses

**Measuring “Experiences” of Racism**
- Time factors (past month, year, lifetime)
- Acute/chronic, continuous/repetitive
- Domains
  - Work, public, school, housing, loans, etc.
- How to ask about experiences of racism
  - Directly ask about any experiences of racism (open ended)
  - Present list of possible experiences – ask them to endorse or not
Threats to Validity and Reliability

- Poor recall of traumatic events
- Individual’s tendency to disclose or not disclose sensitive information to interviewer
- Moody-Ayers experience:
  - Respondents did not report experiences of racism
  - But when asked about stressful experiences in their lives, recalled “racist” experiences
  - Implications for how to access information in memory

Numerous Directions for Research

- No consensus on best measure
- Need research on the validity of self-report measures of racism and discrimination
- Concept development should precede measurement development
- Biological responses are little studied
- Don’t know how vulnerability affects responses (e.g., vulnerability to depression)
- Need to study relationship to a broad array of health outcomes

Special Issue: Racism and Health

  - 10 Articles on racial/ethnic bias and health
  - 3 Commentaries on articles