Implicit Bias in Health Care

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Overview

- Impact of implicit bias in health care
- Health and health care disparities
- Hidden, implicit, unconscious bias
- Selected studies
- Interrupt bias- areas of intervention
Effects of Implicit Bias in Medicine

- Clinical (health care disparities)
- Evaluation, hiring
- Assessment, promotion (career advancement)
- Letters of recommendation
- Curriculum design/content (what is left out?)
- Admissions (diversity)
- Committee assignments (organizational decisions and policy)
- Grant review process (racial/ethnic disparities in funding)
- Peer review decisions
Ecosocial Model - Krieger, AJPH, Feb 2008

Note. To explain current and changing population distributions of disease, including health inequities, and who and what is accountable for the societal patterning of health, it is necessary to consider causal pathways operating at multiple levels and spatiotemporal scales, in historical context and as shaped by the societal power relations, material conditions, and social and biological processes inherent in the political economy and ecology of the populations being analyzed. The embodied consequences of societal and ecologic context are what manifest as population distributions of and inequities in health, disease, and well-being.

Source. See references 1, 17-21.

FIGURE 1—A heuristic diagram for guiding ecosocial analyses of disease distribution, population health, and health inequities.
Health Status Disparities
(HRSA; A Report of the Surgeon General, 2001; IOM, 2003; NIH Healthy People 2020; CDC; AHRQ)

Inequality in health status exists for racial/ethnic populations in the U.S. compared to whites, across a range of disease, illness and outcomes including the following:

- Cardiovascular disease
- Infant mortality
- Cancer
- Diabetes
- Asthma
- Mental health
- HIV infection
- Life expectancy
Infant Mortality

Deaths/1000 live births/first year of life

- US Total = 5.87
- **US # 57th in world**
- Range- Afghanistan # 224 (115) to Monaco #1 (1.82)

US Central Intelligence Agency CIA, 2015
US Infant Mortality/Race Ethnicity

Deaths/1000 live births/first year of life

By Race/Ethnicity

- White 5.1
- AI/AN 8.1
- Asian/Pacific Islander 4.2
- US Mexican 5.1
- Black 11.3

Kaiser Family Foundation Fact Sheet, 2015
Pathways to Disparities Health Status

- Poverty
- Geography
- Health policy
- Access to health care
- Institutional characteristics
- Individual health behavior
- Quality of care
- Discrimination
- more
Institute of Medicine (IOM)
*Unequal Treatment*, 2003

- Confirmed that racial/ethnic health care disparities exist, related to worse outcomes, and “unacceptable”
- Health care provider contribution
- Found indirect but strong evidence of discriminatory patterns in health care
- “Biases may be conscious (explicit) or unconscious (implicit), even among well intentioned”

- 2003: No empirical evidence measuring provider implicit racial bias
Definition of Terms

- **Bias:** an attitude that is favorable or unfavorable toward people, things
- **Stereotype:** shared set of beliefs, fixed impression of a group
- **Discrimination:** behavioral manifestation of bias, stereotyping, the way others are treated
- **Stigma:** certain human characteristics are labeled as socially undesirable and linked with negative stereotypes about a class of individuals, resulting in discrimination (NIH)
Pathways of Bias ➔ Poor Health

- Experience of discrimination leads to poor health
- Provider bias and differences in treatment
- Bias, poor patient provider relationship, disparities in outcomes

Penner, Blair, Albrecht, and Dovidio, 2014
Racial/Ethnic Health Care Disparities

Health care disparities are racial or ethnic “differences in the quality of health care not due to access related factors, or clinical needs, preferences and appropriateness of intervention.”

Institute of Medicine, Unequal Treatment, 2003, p. 32
Health Care Disparities

- Cancer treatment
- Treatment of cardiovascular disease
- Rates of referral for clinical tests
- Placement on kidney transplant wait list
- Black children’s receipt of medication

- Amputation
- Diabetes management
- Pain management
- HIV treatment
- Provider communication behaviors
- Provider perceptions of patients
- Other areas
Disparities: VA System

Disparities exist across a wide range of clinical areas and services in VA system (review 171 articles)

- Arthritis pain management, cancer treatment, diabetes, heart and vascular disease, treatment mental health, substance abuse treatment, preventive care

- Reasons- provider communication behaviors, patient preference, patient trust, clinical judgment, facility characteristics

Saha, et al., 2008
**Disparities: Communication**

- Racial/ethnic disparities exist in quality of patient-provider communication

- 13% of black patients and 13.0% of Asian patients report poor communication with their health providers compared to 9% of White patients

- Patient-provider communication is getting worse for the poor

AHRQ, Quality Measures, retrieved 2015
Discrimination in Health Care

Discrimination in health care: “differences in care that emerge from biases and prejudice, stereotyping, and uncertainty in communication and clinical decision-making.”

More research needed to understand how this occurs

Institute of Medicine, Unequal Treatment, 2003, p. 160
Discrimination: Weight

• 53% of overweight/obese women report inappropriate comments from their doctor
  Puhl & Brownell, 2006

• 50% of providers viewed obese patients as awkward, unattractive, ugly and noncompliant
  Foster et al., 2003
Discrimination: LGBT

- 25% of lesbian women delay Pap screening due to fear of discrimination in clinical care
  Tracy et al., 2010

- 25% of sexual minority patients in Veterans Health Care Administration avoid seeking care due to concern about stigma
  Simpson et al., 2013
Discrimination: Race

African American patients’ perceived discrimination associated with:

- Poor patient satisfaction
- Poor adherence to physician recommendations
- Poor general health and mental health

Penner et al., 2009
Patient Perceptions of Discrimination

Perception of discrimination in health care is related to:

- Delay in seeking care
- Mistrust in provider/system
- Poor patient satisfaction
- Patient stress level
- Adherence to treatment
- Continuity of care
Hidden/Implicit/Unconscious Bias in Health Care
First Impressions

First impressions of a person as attractive, likeable, competent, trustworthy, and aggressive when viewing an unknown face

- Exposure to a face for one-tenth of a second enough to make an assessment of these traits (implicit)

- Increased time (one second), judgment did not change but confidence in the judgment increased

Willis & Todorov, 2006
The Case of “Carla the Quilter”

Banaji & Greenwald, Blindspot, 2013

- Carla, a woman in her late 20s, was rushed to the emergency room by her boyfriend. She had cut her hand on glass bowl as it slipped to the ground and shattered. Her hand was cut from mid-palm to wrist and bleeding. BF told the ED resident that quilting was very important to Carla and worried about damage to her fine motor control.

- Resident stated that he was confident it would heal well if he could “just stitch it up quickly.”

- As he prepared Carla’s hand, a student volunteer walked by and recognized Carla, who in addition to being a quilter, was also an assistant professor at Yale.

- The ED doctor stopped in his tracks and said, “You are a professor at Yale?”

- Within seconds Carla was headed for the surgery department and the best hand surgeon in Connecticut was called in. After hours of surgery Carla’s hand was restored to pre-injury function.

- What happened here? What if patient was Carl?
Hidden Bias is Complex

- The case of Carla is a case of subtle discrimination

- We have both “Carla the quilter”, and “Carla the Yale professor”

- Carla-as-professor triggered an in-group bias

- Carla-the-quilter suddenly became a fellow member of the Yale faculty and qualified for elite care
Carla: In-group Favoritism as a Mechanism of Discrimination

- Hidden discrimination - an “absence of helping.”

- Okay care versus elite care

- In-group favoritism can increase “the relative advantages of those who are already advantaged.”

Banaji & Greenwald, *Blindspot*, 2013
Implicit and Explicit

Two levels of cognition:

- **Explicit** refers to attitudes and beliefs we know we have and report—rational/higher level thinking.

- **Implicit** refers to attitudes that are not readily apparent to the individual, more automatic, unconscious, we are unaware—unconscious/lower level thinking.

Greenwald & Banaji, 1995, Banaji & Greenwald, 2103
Implicit Bias and Behavior

Despite egalitarian beliefs, bias more likely to affect behavior in certain situations:

- Clinical ambiguity
- Situational uncertainty
- Heavy workload
- Fatigue
- Pressure of time

Croskerry, 2001, 2010
Measuring Implicit Bias: the Implicit Association Test (IAT)

- A widely used, indirect measure of implicit social cognition (unconscious attitudes)
- Sort and pair images and words as they flash on a computer screen
- Based on the assumption that response to images that are more easily associated will be faster than response to images that are less easily associated
- [http://implicit.harvard.edu](http://implicit.harvard.edu)

University of Washington, Harvard University, University of Virginia

(IAT) Greenwald, et al., 1998
Implicit Bias: Race

If there is a quicker association of

white the concept of “good”

than

with the concept of “good”

69% of IAT test takers show stronger implicit association of White rather than Black face and concept of “good” (Nosek, et al, 2007)
Gender Bias IAT

Male (Ben, Paul, John, David, etc.)

vs.

Female (Julia, Anna, Emily, Rebecca, etc.)

and

Career (management, professional, corporation, salary, etc.)

vs.

Family (home, children, parents, marriage, etc.)

76% of IAT test takers show implicit male-career association rather than female-career

Nosek et al., 2007
Sexuality IAT

Sexuality IAT:

Lesbian vs. straight

Gay vs. straight

Good vs. bad
Words for good such as "happy"
Words for bad such as "awful"

76% of test takers favor straight people (Nosek et al., 2007)
76% of test takers implicitly favor abled people  

Nosek et al., 2007
Bias Course Content

Bias in PPT slides use in didactic preclinical materials?

- 747 “decks” of slides from 33 courses, one medical school, 2009-2011, manual coding of sex, race

- 4033 images coded by sex= 39.6% female, 60.5% male, exception- Reproduction 62.4% female

- 5230 images coded by race/ethnicity- 21.6% persons of color, 78.4% white

- Representation by sex and race/ethnicity not representative of US population

Martin, Kirgis, Sid, Sabin, 2016
Bias in Letters of Recommendation: Medicine Faculty

Analysis of letters of recommendation for medical faculty, one large US medical school, 3 year period

Letters for female candidates (vs. male)
• Significantly shorter
• Showed less professional respect (first name female vs. Dr. for male)
• Contained doubt raisers (24% vs. 12%)
• Mentioned how they relate interpersonally (16% vs. 4%)
• Referred to personal life (6% vs. 1%)

Letters for male candidates (vs. female)
• Referred more frequently to research (62% vs. 35%), and publications (13% vs. 3%)

Trix and Psenka, 2003
Bias Expressed in Letters

- **Negative language:** While not the best student I have had
- **Hedges:** It appears that her/his health is stable
- **Potentially negative:** bright, enthusiastic, she/he responds well to feedback
- **Unexplained:** Now that she/he has chosen to leave the laboratory
- **Faint praise:** She/he is void of mood swings and temper tantrums
- **Grindstone:** She/he is conscientious and meticulous

Trix & Psenka, 2003
Importance of Letters of Evaluation in Medical School Admissions

Sample: 99/142 medical school admissions deans SOM 2012 (AAMC study)

• 78% of medical schools use letters to decide upon invitation to interview
• 94% use letters to decide upon acceptances
• All medical schools use letters of evaluation in screening process to assess competencies and to identify “red flags”
• Admissions officers are “not” (29%) or “somewhat” (36%) satisfied with quality of information in letters
• 84% report they do not provide instructions to letter writers

Geiger, Dunleavy, AAMC, 2012
Sabin Research

Collaborators: Greenwald, Rivara, Nosek, Buchwald, Riskind, Martin, Stuber, Moore, VanSchaik, and many more
Research Questions: 2005 - 2016

- Do well intentioned providers hold implicit bias similar to others in society?
- Does implicit bias affect medical care?
- If yes, when and how?
- Intervention?
Sabin Research: Providers’ Implicit Bias

- Race bias: Black American versus White American
- Race bias: Native American versus White American
- Weight bias
- Race/Patient Medical Compliance Stereotype
- Sexuality bias
- Mental illness stereotypes
- Age bias

Implicit and Explicit Attitudes: Race

Project Implicit data, (N= 404,277), MDs, others with doctoral degrees, others in society

- MDs (N=2535) hold strong implicit pro-white bias
- Similar to others in society
- Others with doctoral degrees: (JDs PhDs moderate bias)
- Only African American MDs, on average, showed no implicit race bias
- Self-report of pro-white attitudes weaker than implicit measures

Sabin, Nosek, Greenwald, Rivara, 2009
Implicit Attitudes: Sexuality

Project Implicit data, MDs, Nurses, Other Providers, Mental Health Providers, Non-providers

- Heterosexual providers showed moderate to strong implicit attitudes favoring straight men and women over lesbian and gay people
- Stronger implicit bias toward gay men than lesbian women
- Lesbian, gay providers favor own group, bisexual providers mixed results
- Explicit preference for straight people over gay people weaker than implicit
- LGBTQ health care- neglected area in education

Sabin, Riskind, Nosek, *AJPH*, 2015
Pediatrician Study

Study of pediatricians, academic medical center, N= 95, vignette study, 4 common pediatric conditions, not generalizable, second IAT health care study published in world

- Pediatricians show weak implicit race bias (Cohen’s $d= 0.40$)
- Pediatricians show moderate implicit association of race & medical compliance (Cohen’s $d= 0.60$)
- Strong explicit attitudes favoring African Americans
- Bias **NOT** associated with 3/4 treatment recommendations: ADHD, UTI, Asthma, or good enough vs. best care

Implicit Race Bias and Pain Management

As pediatricians implicit pro-white bias decreased, prescribing narcotic pain medication for African American patient increased.

Sabin & Greenwald, *AJPH*, 2012
Implicit Bias: Child Obesity

Indian Health Service, long term primary care providers, N=75 RR 58%, Mean age=48, 67% family medicine, 7 years current position, 78 patients/wk

- Weak race bias, White American vs. Native American
- Very strong weight bias
- Implicit and explicit attitudes not associated with self-reported treatment/referral

Sabin, et al., *Childhood Obesity*, 2015
Implicit Bias in Clinical Interactions

Real-world clinic visits, primary care, 90% physician, 269 patients, Baltimore

For Black patients- stronger clinician implicit bias favoring White over Black Americans associated with:

- Lower patient positive affect
- Patients’ less liking of the clinician
- Less confidence in clinician
- Lower perceived respect from clinician
- More clinician verbal dominance

Cooper, Roter, Carson, Beach, Sabin, Greenwald, Inui, *AJPH*, 2012
Stronger implicit stereotype of White rather than Black patient as compliant with medical care associated with:

- Patients report less confidence and trust in clinician
- Less patient centered with Black patients
- More patient centered with White patients

Cooper, et al., 2012
Interrupt Bias in Health Care

Two Areas of Intervention:
Increase Health Workforce Diversity
Improve Provider Communication
Interrupt Impact of Implicit Bias

- Collect data- look for disparities, monitor equity
- Reduce discretion and subjectivity in decisions
- Use decision tools
- Objective, standardized processes
- Clinical guidelines
- Standardize care
- Check lists
- Accountability
- Diversity?
- Bias awareness?
- Improve communication?
Workforce Diversity in Medicine

- For African Americans racially concordant clinical relationship associated with:
  - Patient adherence to all cardiovascular disease medications (Traylor, et al., 2010)
  - Better doctor-patient communication (Schoenthaler, et al., 2012)
  - More satisfaction with care (Street, et al., 2007)

- Minority physicians are more likely to recognize unfair treatment/disparities and to work on disparities issues (Getz, & Faden, 2008)

- Investigator race/ethnicity influences minority patient enrollment in clinical trials (Getz, & Faden, 2008)
Diversity = Better Critical Thinking

Research on value of diversity: diverse (race/ethnicity) groups vs. homogeneous groups, analytic thinking, controlled for culture Texas and Singapore

- Individuals competed in groups to find accurate answers to problems
- Answers were 58% more accurate in diverse groups than in homogeneous groups
- Differences only evident when interaction occurred, (pre interaction no differences in groups’ answers, not specific skill sets)
- More time spent in interacting in diverse groups = more accurate answers
- Diversity > cognitive friction which disrupts conformity = better critical thinking, improved error detection, more accurate answers

Search Committee Best Practices

• CEDI Presentation: present evidence diversity, implicit bias, best practices, tool kit

• Since October 2016:
  Presentation to 22 Search Committees, 12 department/divisions, 1 diversity committee, 4 trained to give presentation in their departments

• Evaluation: 93% rate presentation very good/good, 91% find information on unconscious bias very useful/useful, 89% rate information on I-200 very useful/useful
Bias Awareness

- High bias awareness among Whites = more willingness to seek interracial contact
- White participants high in implicit race bias with high bias awareness showed more acceptance of bias feedback
- (Whites) acceptance of bias feedback associated with desire for intergroup contact, motivated to increase diversity
- Whites low bias awareness = resistance to bias feedback, not motivated for intergroup contact, “backlash”
- **Bias awareness useful for some, ineffective for others**

Perry, Murphy, Dovidio, 2015
Medical School Experiences

3547 students from 49 U.S. medical schools, report formal curricula health and health care disparities, informal curricula - racial climate and role models, took Race IAT first year and 4th year

Results:
• Taking Race IAT yr 1 and yr 4- predicted decreased implicit race bias
• Having heard negative comments about African American patients from attending physicians or residents predicted increased implicit race bias
• Unfavorable contact vs. very favorable contact with AA physicians predicted increased implicit race bias

van Ryn et al., 2014
Healthcare Provider Communication

• Meta-analysis of 106 articles that studied association between provider communication and medical adherence - 104 found that good communication was predictive of patient adherence

• 19% greater risk of non-adherence among patients whose physician communicated poorly

Zolnierek & Dimatteo, 2009
Healthcare Disparities Continuing Education
NIH 5R44MD000589, PI, VanSchaik, Sabin Co-PI


www.mededportal.org/publication/9675
Welcome to the Healthcare Disparities course

To begin, select a module below:

**Module 1**
Introduction to Racial & Ethnic Disparities in Healthcare

**Module 2**
Unconscious Associations

**Module 3**
Patient-Centered Communication
Results: Physician Sample

- Data service, email blast, AMA
- Family medicine MDs, US 19 states
- N=130 pre/course/post
- 45.8% female, mean age 40 years
- 54% White, 30% Asian, 7% AA, 4% Hispanic, other
- On average 45.6% of practice non-white
- 48% prior training in healthcare disparities
- Average 44 hours/week patient care
- 78% office setting

VanSchaik & Sabin, 2016 preliminary data, unpublished
Healthcare Disparities

Learning objectives

This module provides an overview of racial and ethnic disparities in healthcare. After completing this module, you will be able to:

- Define healthcare disparities
- Describe examples of racial and ethnic healthcare disparities
- Explain why healthcare disparities matter
- Identify sources of racial and ethnic disparities in healthcare
Results: Knowledge of Healthcare Disparities

- On knowledge posttest, control scored significantly lower than the other conditions, $p < .001$

- Two modules [knowledge/skills] scored significantly lower than all 3 modules [knowledge/attitudes/skills], $p = .011$

Van Schaik & Sabin, 2016  preliminary data, unpublished
Reaction to Disparities Module

• “Consistent with what I had previously understood, but I am still surprised such stark differences in treatment/outcome exist.”

• “The modern examples (2000 and later) of how there is racism and disparities in our modern health care system are frightening.”

• “Appalled. I absolutely knew that many internal biases exist but did not realize there would be a difference in care in clinical situations I consider algorithmic...”

Van Schaik & Sabin, 2016  preliminary data, unpublished
Learning objectives

This module addresses the concept of unconscious associations and their role in medical practice. You will also have an opportunity to examine your own unconscious associations. After completing this module, you will be able to:

- Define the term unconscious associations
- Describe situations where unconscious associations are useful or a normal shortcut in medicine
- Examine your own unconscious associations
- Identify strategies to minimize the influence of unconscious associations on interactions with patients
Age IAT & Race IAT

- AGE: Strong age bias, 79% some degree of age bias
- RACE: Moderate race bias, 77% some degree of race bias

Van Schaik & Sabin, 2016 preliminary data, unpublished
Reaction to IAT

What was your reaction to the Implicit Association Test?

• “Surprised at the strength of my bias”

• “I hope to seek out more diversity in my personal life to continue to counteract the biases I have.”

• “Remain conscious of these biases, and regularly self-reflect on whether bias has influenced decision-making”

VanSchaik, Sabin, preliminary data, 2016, unpublished
Learning objectives

In this module, you will focus on strategies to help counter the effects of unconscious bias and minimize racial disparities in the patient-provider relationship: taking the patient’s perspective and recognizing the individuality of each patient.

After completing the case studies in this module, you will be able to apply patient-centered communication skills to:

- Elicit and respond to patients’ perspectives
- Treat patients as individuals
- Build trusting relationships with patients
- Build partnerships for treatment
Mr. Tolberts: Working in partnership with patients
Mrs. Vargas: Eliciting and responding to patients’ perspectives
Tom and Ms. Fletcher: Building trust with patients
Dr. Matito thinks Mr. Tolberts is not taking his medications as prescribed.

What should he do next?

Review the risks of continued hypertension.

Identify priorities.

Modify the patient’s medications.

Changing the Mr. Tolberts' medication is a valid recommendation. However, in order to engage in a partnership with the patient, Dr. Matito needs to negotiate treatment goals based on the patient's preferences. Dr. Matito is more likely to build an effective partnership with Mr. Tolberts if he offers treatment options and asks for his input. 2 Choose another option.
Communication Skills

Please identify two patient-centered communication skills you will use to reduce the risk of healthcare disparities in your practice.

- “Remembering to empathize and ask open ended questions, even when tired”
- “Ask open ended questions and allow pt to answer without interrupting”
- “Try to avoid directly contradicting the patient's interpretation of their symptoms”

VanSchaik & Sabin, preliminary data, 2016 unpublished
Virtual Patient Assessments (VPAs)

- Participants demonstrated patient-centered communication skills via audio-recording responses to simulated patients (actors)

- Results: Control - lower satisfaction with VPA encounter ($p=0.04$)

- No difference pre/post communication skills, very high pre intervention communication skills

VanSchaik & Sabin, preliminary data, 2016 unpublished
What Can We Personally Do About Bias?

• Be open and aware of personal bias
• Value diversity, inclusion, equity
• Collect data, monitor equity
• Create accountability (personal/organizational responsibility)
• Remove subjectivity through structured processes
Thank You!

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Small Group

• What are questions that students ask about implicit bias?

• Describe a time you made assumptions about a situation or person that proved to be a mistaken snap judgment

• Think about a time that you observed “in-group favoritism”

• Identify a structured process in your organization/setting that might interrupt bias