How health care can outgrow bias

Tim Lahey, MD, MMSc, HEC-C, FACP

Infectious Diseases Physician and
Director of Ethics, UVMMC

Professor of Medicine, UVM Larner
College of Medicine

No financial or other conflicts to disclose

OBJECTIVES

- Review the impact of bias on health care

- Identify evidence-based ways to mitigate personal and systemic bias in health care

- Discuss bias-related topics such as helpful versus unhelpful responses to bias and effective ways of improving community cohesiveness

Strong Links to Major Bioethics Principles

- Respect for patients

- Beneficence and non-maleficence

- Wise resource allocation

- Justice

Agenda

- Why we care
- Bias: a feature and a glitch
- Impacts on health care workers
- How to mitigate the harms of bias
    - Individuals
    - Teams
- Pitfalls
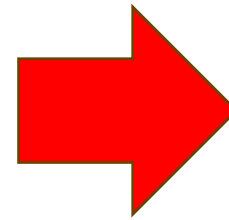- Neighborliness
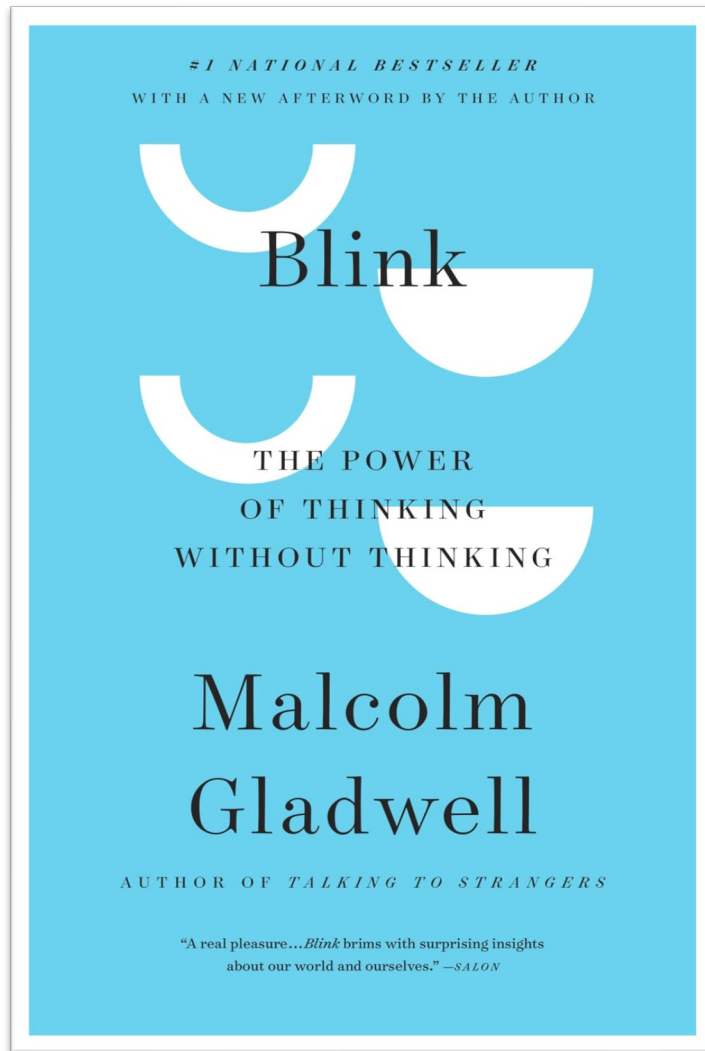
Values

Fairness

Wise allocation

Positive impact
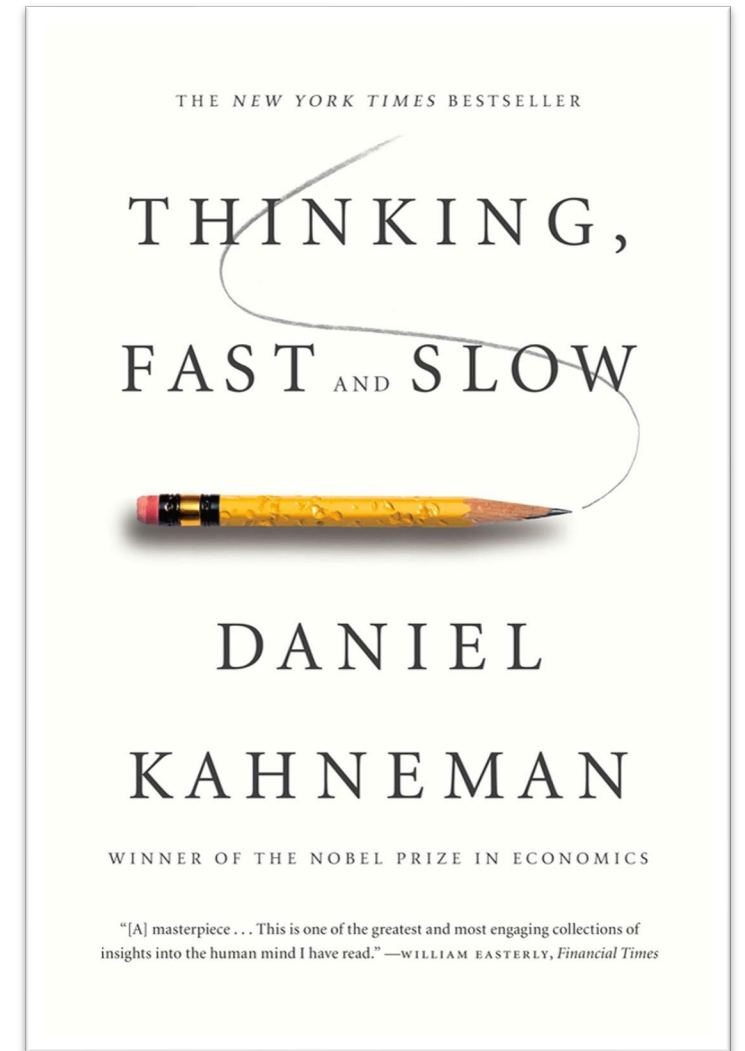
Belonging

Heuristics, a.k.a. rules of thumb

Don't touch!

Blink
THE POWER OF THINKING WITHOUT THINKING
Malcolm Gladwell

System 1 thinking
"old brain"

System 2 thinking
"new brain"

THINKING, FAST AND SLOW
DANIEL KAHNEMAN

Two Cognitive Biases

(among many)

Availability Bias

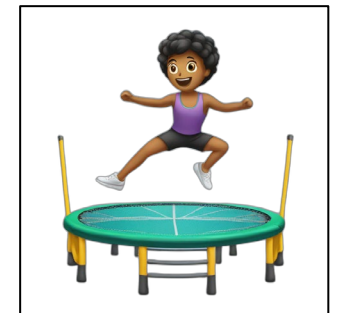- Likelihood of risk equated to ease of recollection

Airplane safety and highly publicized plane crashes

Frequency of tornados in Kansas vs Nebraska

Threat from terrorists vs trampolines

Representativeness Bias

- Resemblance used to characterize likelihoods

The hippie professor
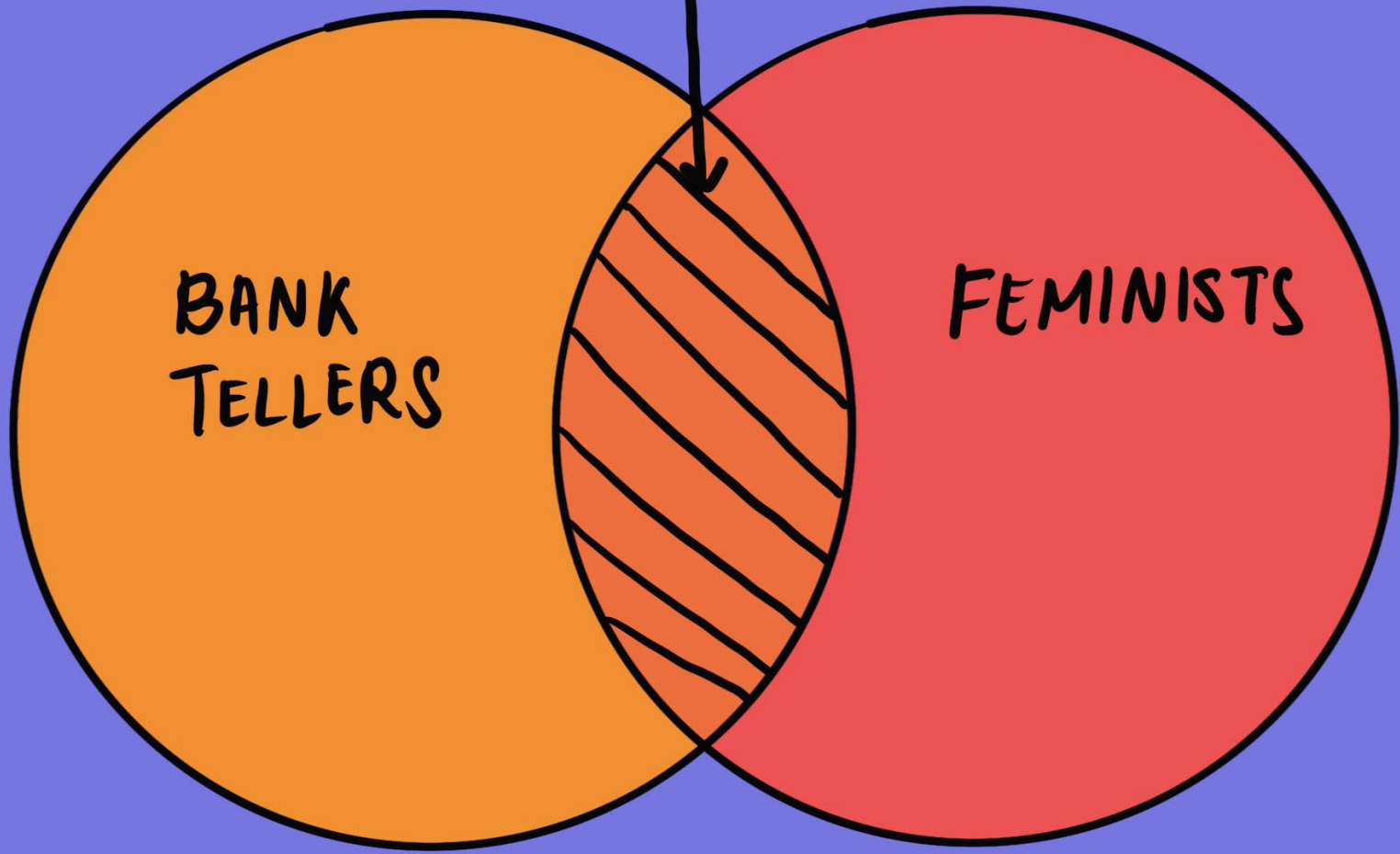
Muslim experiences of bias after 911

Linda is 31 years old, single, outspoken, and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice and also participated in anti-nuclear demonstrations.

Which is more probable?

1.Linda is a bank teller.

2.Linda is a bank teller and is active in the feminist movement.

Cognitive / social biases

- "Agentic" adjectives most commonly used for men, "communal" for women
  (Carli et al 2016)

"Agentic" Adjectives	"Communal" Adjectives
Strong	Caring
Decisive	Nurturing
Stubborn	Emotional
Authoritative	Dependent
Competitive	Nurturing
Assertive	Emotional
…	…

- Stereotypes stable from 1980's to 2014 (Haines et al 2016)

Cognitive / social biases

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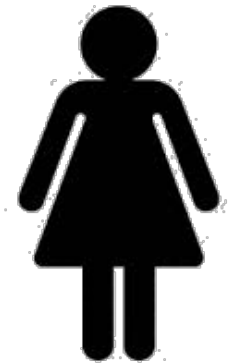
- Stereotypes stable from 1980's to 2014 (Haines et al 2016)

Cognitive / social biases

- Similar patterns by racial identity (Ghavami and Peplau 2013)

White	Black	Latino	Middle Eastern
Rich	Criminal	Poor	Terrorist
Intelligent	Athletic	Have many children	Oppress women
Arrogant	Loud	Illegal immigrant	Muslim
Racist	Poor	Uneducated	Hairy
All-American	Have an attitude	Family-oriented	Turban
…	…	…	…

Heuristics in health care

Heuristics in health care
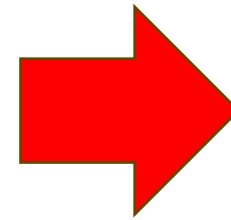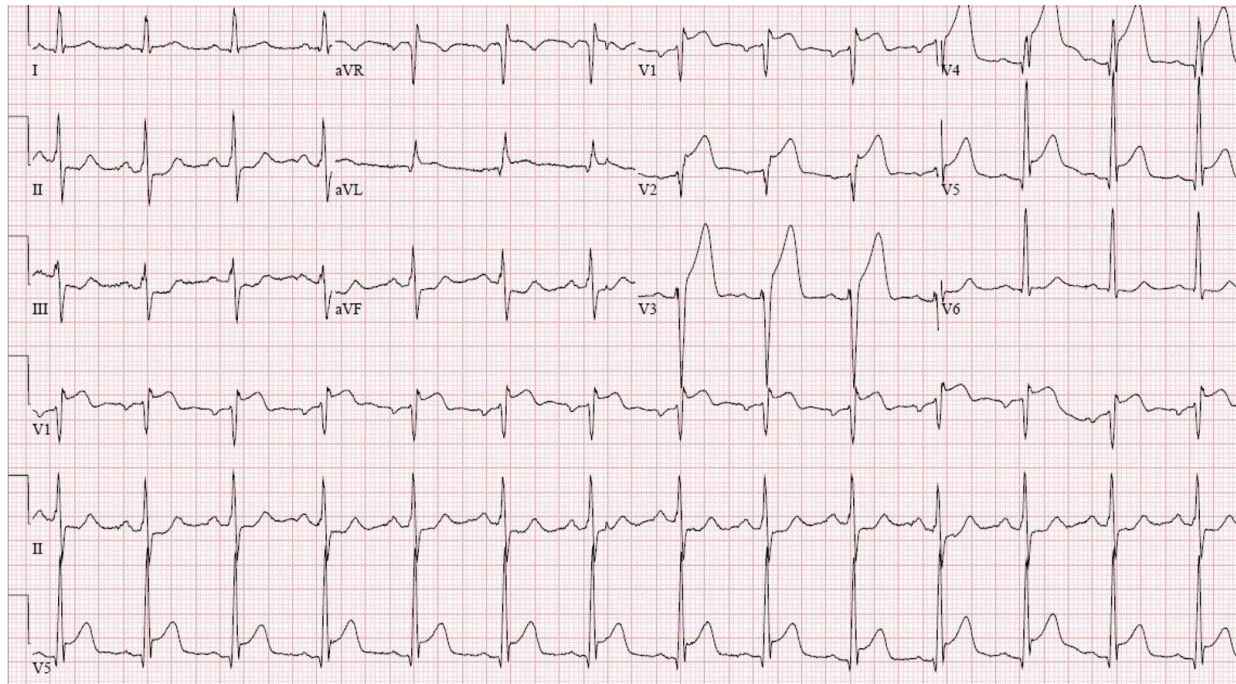
→ Call cardiology!

Biases affect patients & health care workers

BMC Medical Ethics

RESEARCH ARTICLE

Open Access

CrossMark

Implicit bias in healthcare professionals: a systematic review

Chloë FitzGerald[*] and Samia Hurst

EXAMPLES:
- Physicians with greater anti-Black bias were rated more poorly by Black patients
- Nurse anti-IDU bias associated with poor job satisfaction
- 20 of 25 studies correlated bias with changed clinical practice

A variety of studies, conducted in various countries, using different methods, and testing different patient characteristics, found evidence of implicit biases among healthcare professionals and a negative correlation exists between level of implicit bias and indicators of quality of care. The two most common methods employed were the assumption method

Biases affect patients & health care workers

ELSEVIER

SOCIAL SCIENCE

A decade of studying implicit racial/ethnic b
using the implicit association test

Ivy W. Maina [a,*], Tanisha D. Belton, MPH [b], Sara Ginzb
Tiffani J. Johnson, MD, MSc [b]

[a] Perelman School of Medicine, University of Pennsylvania, 3400 Civic Center Blvd, Philadelph
[b] Division of Pediatric Emergency Medicine and PolicyLab, Children's Hospital of Philadelphia, 3
[c] Philadelphia College of Osteopathic Medicine, 4170 City Ave, Philadelphia PA 19131, United S

Table 3
Association between implicit bias and outcomes.

Vignette-Based Studies		
Author, year	Outcome Studied	Association between implicit bias and outcome (present or absent)
Charles, 2009	Recommendations for TIIDM treatment	Present
Green et al., 2007	Thrombolysis recommendations	Present
Haider et al., 2011	Pain assessment and management	Absent
Haider et al., 2014	Trauma/acute care management	Absent
Haider et al., 2015a	Trauma/acute care management	Absent
Haider et al., 2015b	Trauma/acute care management	Absent
Hirsh et al., 2015	Pain assessment and management	Absent
Katz and Hoyt, 2014	Expectations of therapeutic bonds and patient prognosis	Present
Oliver et al., 2014	Total knee replacement recommendations	Absent
Puumala et al., 2016	Pain and asthma management	Absent

| Real-World Patient Care		
Blair et al., 2013b	Patient provider communication	Present
Blair et al., 2014	Hypertension treatment	Absent
Cooper et al., 2012	Patient provider communication	Present
Hausmann et al., 2015	Social integration, depression and life satisfaction	Present
Hagiwara et al., 2013	Patient provider communication	Present
Hagiwara et al., 2016a	Patient provider communication	Present
Hagiwara et al., 2016b	Patient provider communication	Present
Penner et al., 2010	Patient provider communication	Present
Penner et al., 2016a	Patient provider communication	Present
Hagiwara et al., 2016b	Patient provider communication	Present
Penner et al., 2010	Patient provider communication	Present
Penner et al., 2016a	Patient provider communication	Present

Silver linings

- Patients seen by doctors of the same race are more likely to mention health concerns and follow physician advice

- Greater availability of Black physicians associated with improved life expectancy for Black patients

- Elderly hospitalized patients treated by female doctors have lower mortality and readmissions compared to those treated by male doctors

- AAMC "Do Black patients fare better with Black doctors?"; Snyder *JAMA Network Open* 2023;6(4):e236687.

- Tsugawa et al *JAMA Intern Med* 2017; Miytawaki et al *Ann Intern Med* 2024

Biases & health care learners
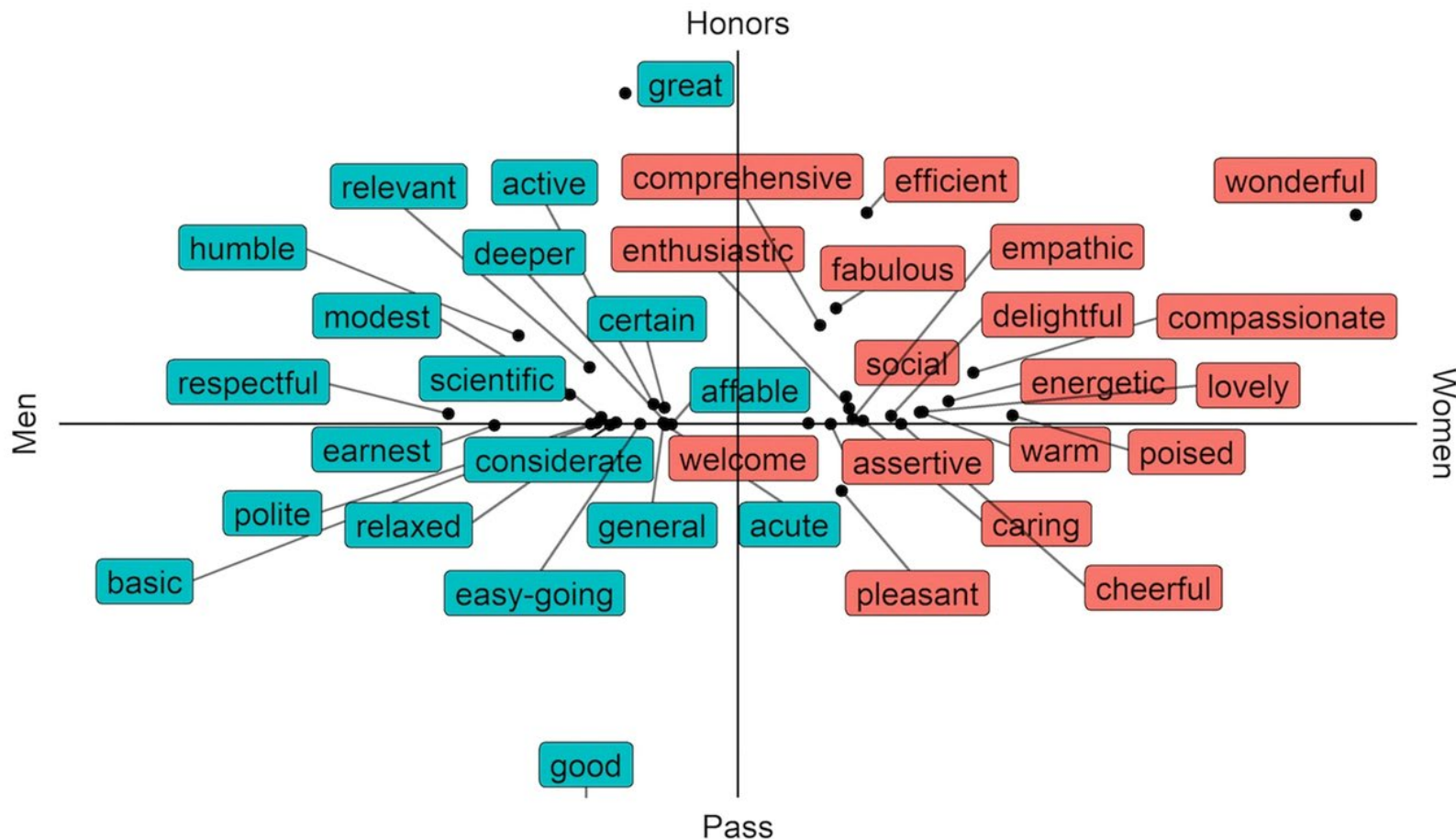
Medical educators use different sets of words to describe female vs male medical students

Rojek et al *JGIM* 2019

Biases & health care learners

Medical educators use different sets of words to describe URM vs non-URM medical students

Rojek et al *JGIM* 2019

*URM=under-represented in medicine

Making health care more **hospitable** for everyone is **good medicine**

NDC 0856-4851-83

GOOD MEDICINE
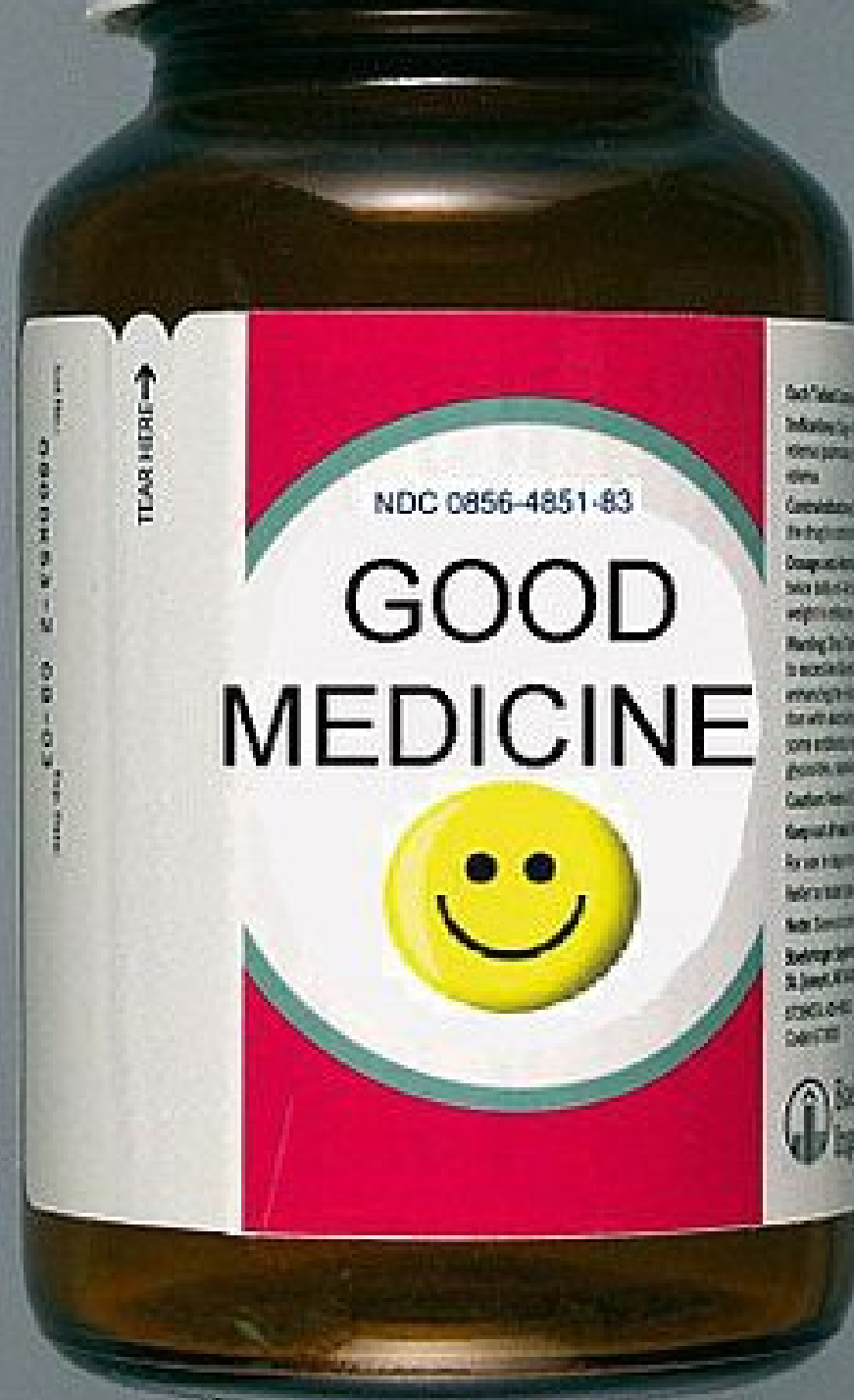
It's complicated

Being good neighbors

Unlearning bias

- Individuals

- Institutions

Evidence for anti-bias interventions

HHS Public Access

Author manuscript

Annu Rev Public Health. Author manuscript; available in PMC 2022 June 07.

Published in final edited form as:
Annu Rev Public Health. 2022 April 05; 43: 477–501. doi:10.1146/annurev-publhealth-052620-103528.

Eliminating Explicit and Implicit Biases in Health Care: Evidence and Research Needs

Monica B. Vela[1], Amarachi I. Erondu[2], Nichole A. Smith[3], Monica E. Peek[4], James N. Woodruff[5], Marshall H. Chin[6]

[1]Department of Medicine, Section of Academic Internal Medicine, University of Illinois College of Medicine in Chicago, Chicago, Illinois, USA

[2]Department of Internal Medicine and Pediatrics, University of California, Los Angeles Medical Center, Los Angeles, California, USA

[3]Department of Internal Medicine, Hospital of the University of Pennsylvania, Philadelphia, Pennsylvania, USA

[4]Department of Medicine, Section of General Internal Medicine and Chicago Center for Diabetes Translation Research, University of Chicago, Chicago, Illinois, USA

[5]Pritzker School of Medicine, University of Chicago, Chicago, Illinois, USA

[6]Department of Medicine and Chicago Center for Diabetes Translation Research, University of Chicago, Chicago, Illinois, USA

RESULTS:
- Workshops and other educational sessions can reduce implicit bias
- Many studies used self-selecting participants or did not use formal assessments of bias
- Effects lasted for months, rarely assessed longer

→ Anti-bias measures can work AND we're still working out the details

What works, part 1

- Bias awareness, a la **implicit association test**, especially if done without defensiveness (van Ryn et al JGIM 2015)

Skin-tone IAT

Skin-tone (**'Light Skin - Dark Skin' IAT**). In this IAT, you will be asked to categorize light-skinned faces and dark-skinned faces as well as positive and negative words.

Gender-Science IAT

Gender - Science. In this IAT, you will be asked to categorize male-associated words and female-associated words as well as words associated with liberal arts and science.

Asian-Foreign IAT

Asian American (**'Asian - European American' IAT**). In this IAT, you will be asked to categorize White and Asian-American faces as well as images of places that are either American or Foreign in origin.

Arab-Muslim IAT

Arab-Muslim (**'Arab Muslim - Other People' IAT**). In this IAT, you will be asked to categorize names that likely belong to Arab-Muslims and names that likely belong to other nationalities or religions as well as positive and negative words.

Sexuality IAT

Sexuality (**'Gay - Straight' IAT**). In this IAT, you will be asked to categorize words and symbols representing gay and straight people as well as positive and negative words.

Age IAT

Age (**'Young - Old' IAT**). In this IAT, you will be asked to categorize older and younger faces as well as positive and negative words.

Disability IAT

Disability (**'Physically Disabled – Physically Abled' IAT**). In this IAT, you will be asked to categorize figures representing physically disabled people and physically abled people as well as positive and negative words.

Native IAT

Native American (**'Native - White American' IAT**). In this IAT, you will be asked to categorize last names that likely belong to Native Americans and last names that likely belong to White Americans as well as positive and negative words.

Gender-Career IAT

Gender - Career. In this IAT, you will be asked to categorize typical male names and typical female names as well as words associated with career and family.

Jewish IAT

Jewish (**'Jewish People – Christian People' IAT**). In this IAT, you will be asked to categorize images culturally associated with Jewish people and Christian people as well as positive and negative words.

Race IAT

Race (**'Black - White' IAT**). In this IAT, you will be asked to categorize White and Black faces as well as positive and negative words.

Asian IAT

Asian American (**'Asian - European American' IAT**). In this IAT, you will be asked to categorize White and Asian-American faces as well as positive and negative words.

Presidents IAT

Presidents (**'Presidential Popularity' IAT**). In this IAT, you will be asked to categorize photos of Joseph Biden and one or more previous presidents as well as positive and negative words.

Religion IAT

Religion (**'Religions' IAT**). In this IAT, you will be asked to categorize images or words culturally associated with Jewish people, Christian people and Muslim people as well as positive and negative words.

Transgender IAT

Transgender (**'Transgender People - Cisgender People' IAT**). In this IAT, you will be asked to categorize photos of transgender celebrities and photos of cisgender celebrities as well as positive and negative words.

Weapons IAT

Weapons (**'Weapons - Harmless Objects' IAT**). In this IAT, you will be asked to categorize White and Black faces as well as images of weapons and harmless objects.

Hispanic IAT

Hispanic American (**'Hispanic American – European American' IAT**). In this IAT, you will be asked to categorize typical Hispanic names and typical European American names as well as positive and negative words.

Weight IAT

Weight (**'Fat - Thin' IAT**). In this IAT, you will be asked to categorize silhouettes of people who are fat and people who are thin as well as positive and negative words.

Implicit association test

Implicit association test

Implicit association test

Implicit association test

Implicit association test

On imperfect evidence & skepticism

Someone said IAT isn't perfect so shouldn't I just tune this whole thing out?

What works, part 2

- **Mindfulness** and other stress-reducing interventions

Dovetailing

Intervention to Promote Physician Well-being, Job Satisfaction, and Professionalism
A Randomized Clinical Trial

Colin P. West, MD, PhD[1,2]; Liselotte N. Dyrbye, MD, MHPE[3]; Jeff T. Rabatin, MD, MSc[4]; et al

» Author Affiliations | Article Information

- 19 weeks of physician discussions about **mindfulness, reflection**, and **shared group learning** improved empowerment and engagement and decreased depersonalization

What works, part 3

- Interventions that **combat pre-existing biases**, e.g.
  - Trying to overcome bias
  - Appeals to egalitarian values
  - Engaging with others' perspectives
  - Vivid counter-stereotypes & media that elicit positive emotional responses to subjects of bias

- Interventions with biggest effects often had **multiple parts**

Lai et al *Journal of experimental psychology. General*, 2014-08, Vol.143 (4), p.1765-1785

STRATEGIES TO COMBAT OUR IMPLICIT BIASES

	Description	Resources
Introspection	Explore and identify your own implicit biases by taking implicit association tests or through other means.	Project Implicit – Implicit Association Tests (https://implicit.harvard.edu/implicit/)
Mindfulness	Practice ways to reduce stress and increase mindfulness, such as meditation, yoga, or focused breathing.	"Three Ways Mindfulness Makes You Less Biased" (https://greatergood.berkeley.edu/article/item/three_ways_mindfulness_can_make_you_less_biased)
Perspective-taking	Consider experiences from the point of view of the person being stereotyped. This can involve consuming media about those experiences, such as books or videos, and directly interacting with people from that group.	"A Conversation About Growing Up Black" (https://www.nytimes.com/video/opinion/100000003670178/a-conversation-about-growing-up-black.html?module=inline)
Learn to slow down	Pause and reflect on your potential biases before interacting with people of certain groups to reduce reflexive reactions. This could include thinking about positive examples of that stereotyped group, such as celebrities or personal friends.	"Snacks and Punishment" (https://www.nytimes.com/video/us/100000004818677/snacks-and-punishment.html?playlistId=100000004821064)
Individuation	Evaluate people based on their personal characteristics rather than those affiliated with their group. This could include connecting over shared interests or backgrounds.	"Long-Term Reduction in Implicit Race Bias: A Prejudice Habit-Breaking Intervention" (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3603687/)
Check your messaging	Embrace evidence-based statements that reduce implicit bias, such as welcoming and embracing multiculturalism.	The Impact of Multiculturalism Versus ... (http://...psy...edu/spcl/documents/colorblind_final_000.pdf)
Institutionalize fairness	Promote procedural change at the organizational level that moves toward a socially accountable health care system with the goal of health equity.	The Equity and Empowerment Lens (https://multco.us/diversity-equity/equity-and-empowerment-lens)
Take two	Practice cultural humility, a lifelong process of critical self-reflection to readdress the power imbalances of the clinician-patient relationship.	"Cultural Humility Versus Cultural Competence: A Critical Distinction Defining Physician Training Outcomes in Multicultural Education" (https://melanietervalon.com/wp-content/uploads/2013/08/CulturalHumility_Tervalon-and-Murray-Garcia-Article.pdf)

On language

From Edgoose et al *Fam Pract Manag* 2019

On language

Practice to avoid	Example	Instead
Words disfavored by the people they describe		Use words people prefer
Dehumanizing language	"Addict," "Convict"	"Person first" language
Lumping people by appearance	Race in the HPI	Be alert to stereotyping
Dismissal and distrust	"Another person trying to scam me for drugs"	Beginner's mind
Essentialism	Expecting traits to predict behavior or outcomes	Seek connection

Policing language can backfire

"Calling out"

"Calling in"

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Individuation	Evaluate people based on their personal characteristics rather than those affiliated with their	"Long-Term Reduction in Implicit Race Bias: A Prejudice Habit-Breaking Intervention"
Chec mess		
Insti fairn		
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Institutionalize fairness — Promote procedural change at the organizational level that moves toward a socially accountable health care system with the goal of health equity.

From Edgoose et al *Fam Pract Manag* 2019

Institutional Bias Interventions

- Build diverse experience into hiring and retention practices
- Promote equity
- Leadership encouragement of anti-bias work w/ words & deeds
- Examine policy & practice to eliminate hidden bias
  - If you don't look, you can't fix it
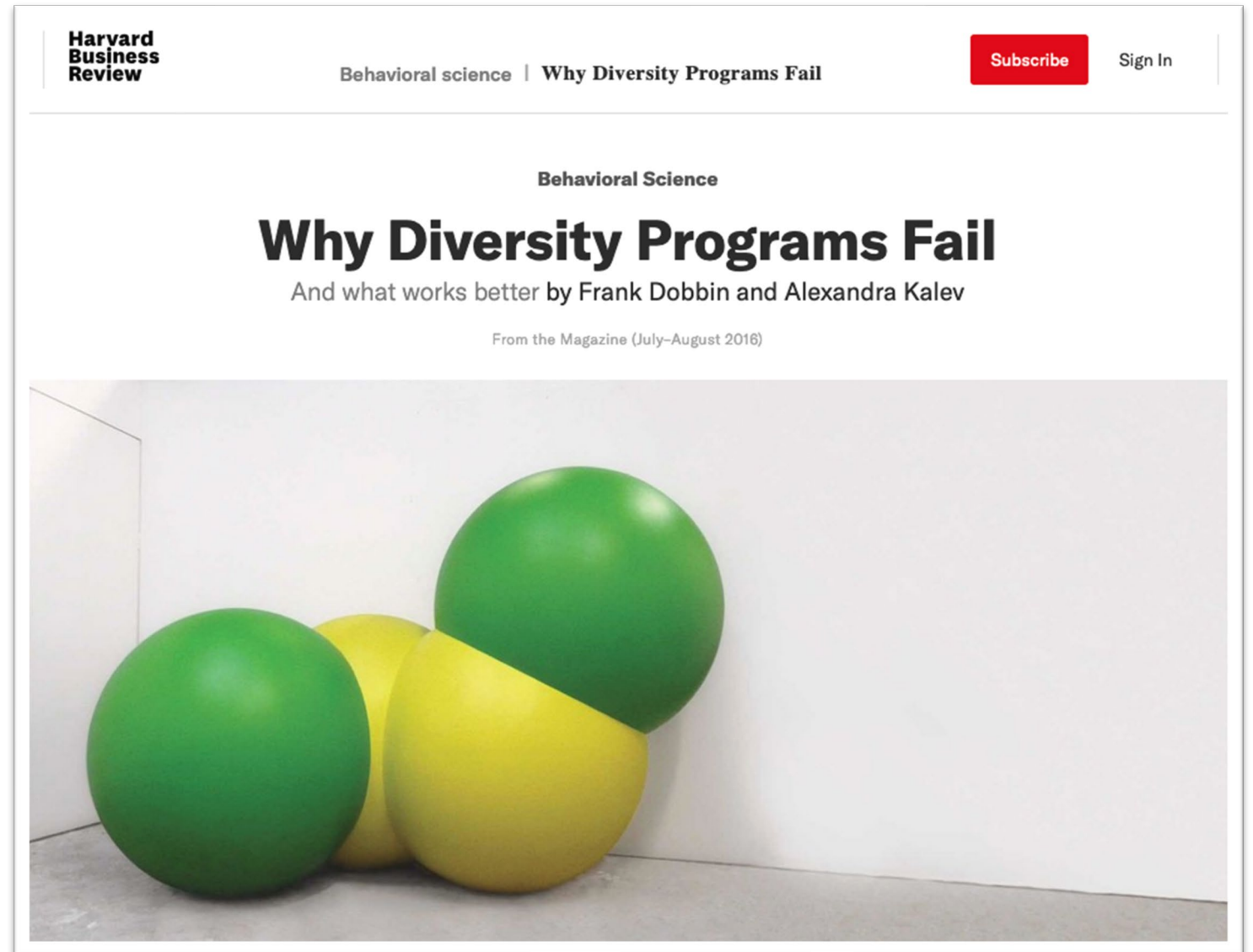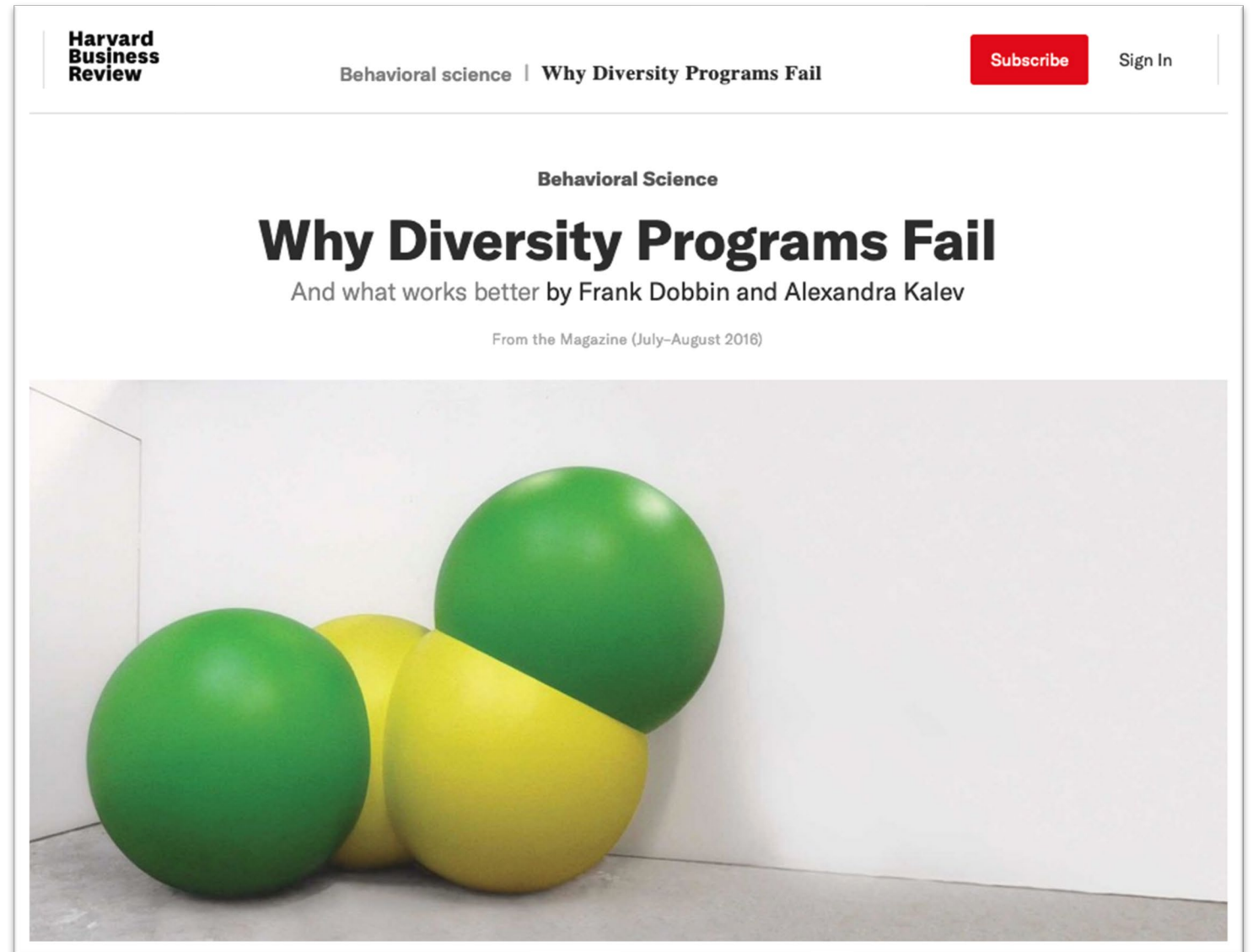- Support employee wellness
- Follow through

DEI Pitfalls

- Negative messaging
  - Legal requirements
  - Shaming
  - Leaders who say "They are making me"

- Education as punishment

- Tokenizing or short-term investment

Behavioral Science

Why Diversity Programs Fail

And what works better by Frank Dobbin and Alexandra Kalev

From the Magazine (July–August 2016)

Avoiding DEI Pitfalls

- Engage worker values

- Reward & tell success stories

- Empower managers in diversity task forces

- Provide positive mentorship

- Structure intergroup contact

Resources

Resource	URL
Harvard Implicit Association Test	https://implicit.harvard.edu/implicit/
AAFP anti-bias training	https://www.aafp.org/family-physician/patient-care/the-everyone-project/toolkit/implicit-bias.html
AMA equity resources	https://edhub.ama-assn.org/ama-center-health-equity
IHI video by Kedar Mate on QI and equity	https://www.ihi.org/insights/why-anti-racism-work-and-isnt-addressing-patient-safety
AMA / AAMC equity guide	https://www.ama-assn.org/system/files/ama-aamc-equity-guide.pdf

Summary and discussion

- We all want fairness, and belonging
- Bias inhibits that success
- We can improve
- It takes practice
- Measurement matters
- Good neighbors are honest – and have a sense of humor