MODERATED SESSION

Prevent Blindness
Focus on Eye Health National Summit

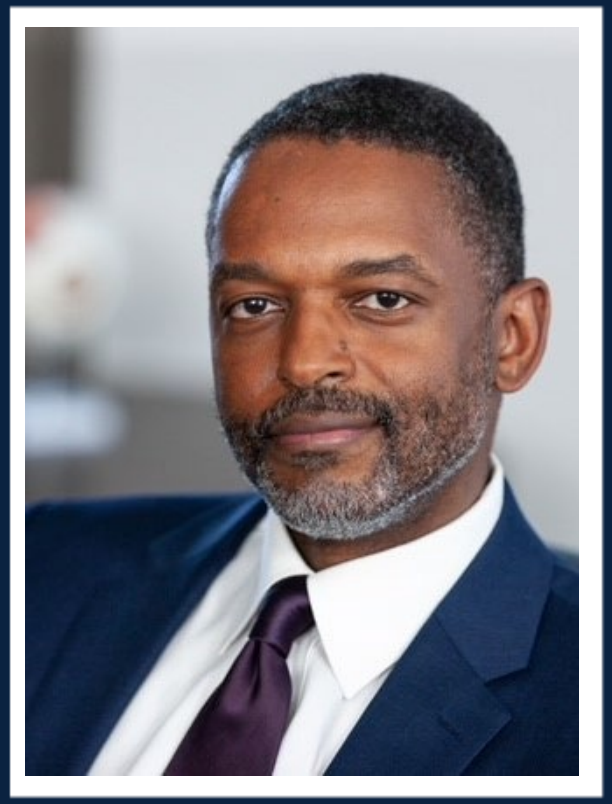
Inequities in Vision Population Health Research

Session Moderator:
Mitchell V. Brinks, MD, MPH
Chair, Prevent Blindness Public Health and Policy Committee, Chair, Vision 2020 USA, Casey Eye Institute, Oregon Health & Science University

Leon W. Herndon Jr., MD
Duke Eye Center

David Friedman, MD, PhD
Massachusetts Eye and Ear

Focus on Eye Health Summit:
Our Changing Vision



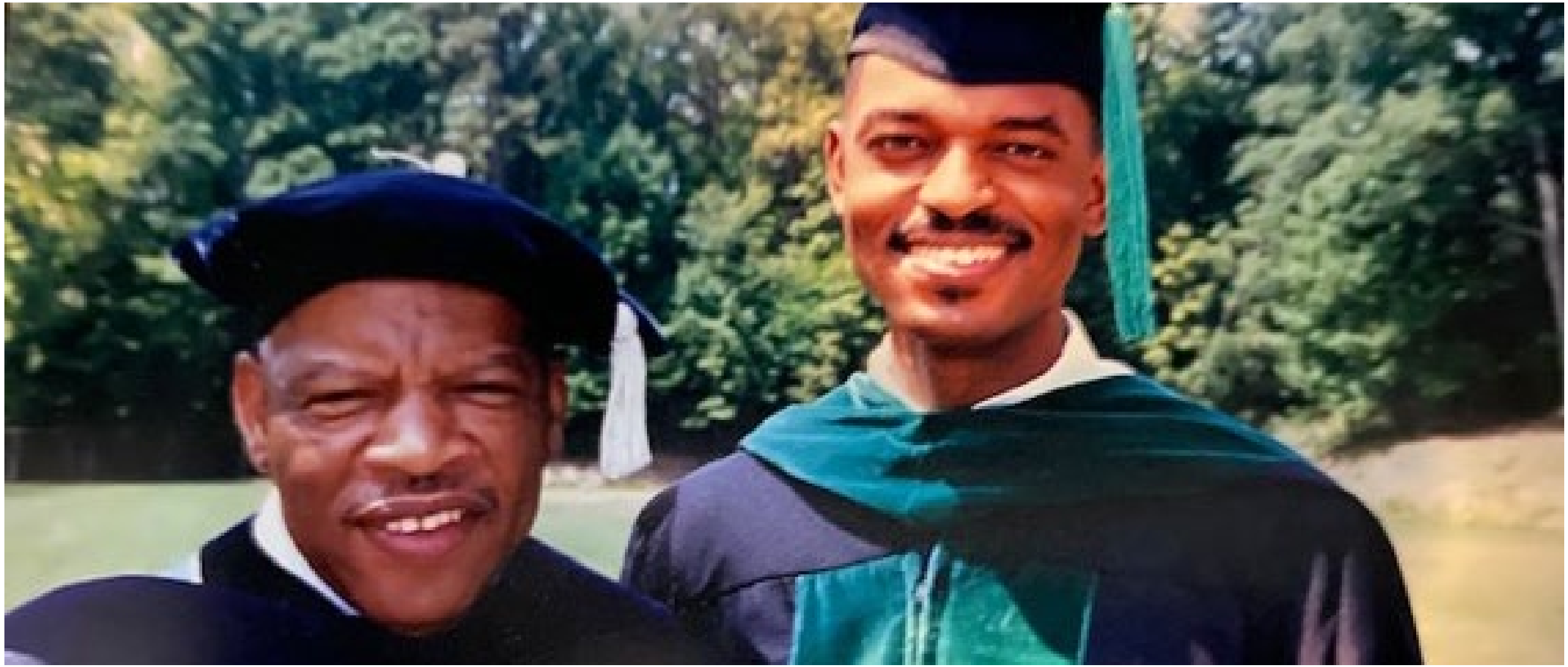
Prevent Blindness
Focus on Eye Health National Summit

Presentation Title
Healthcare Inequities in Glaucoma Care

Speaker name

Leon W. Herndon, MD
Duke University Eye Center

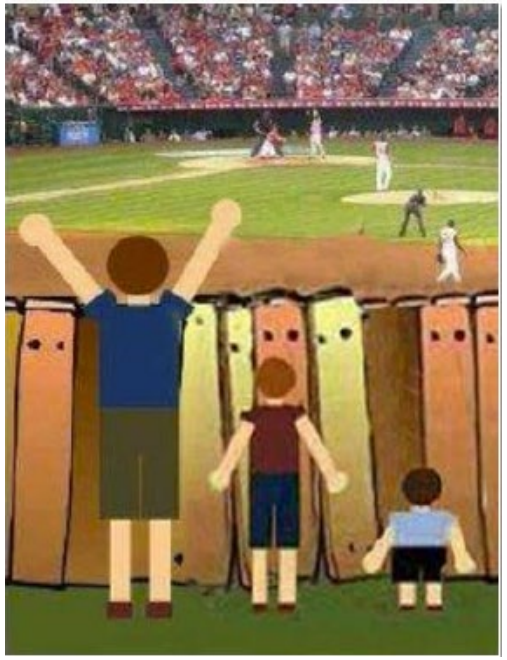
Congressman John Lewis



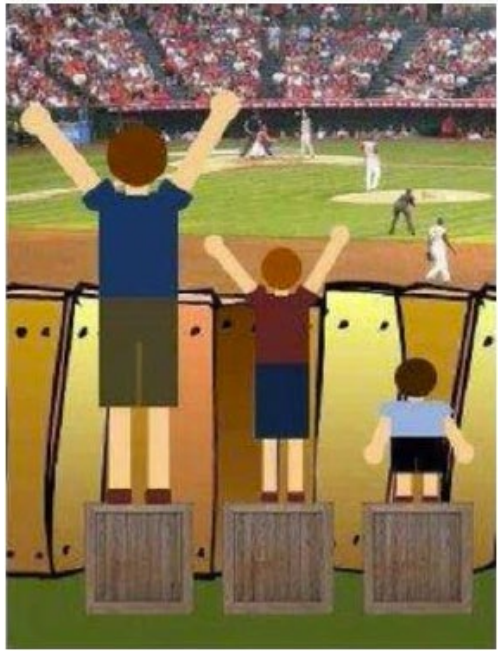
Definitions

- Disparity
  - a great difference
- Equality
  - the state of being equal, especially in status, rights, and opportunities
- Equity
  - the quality of being fair and impartial

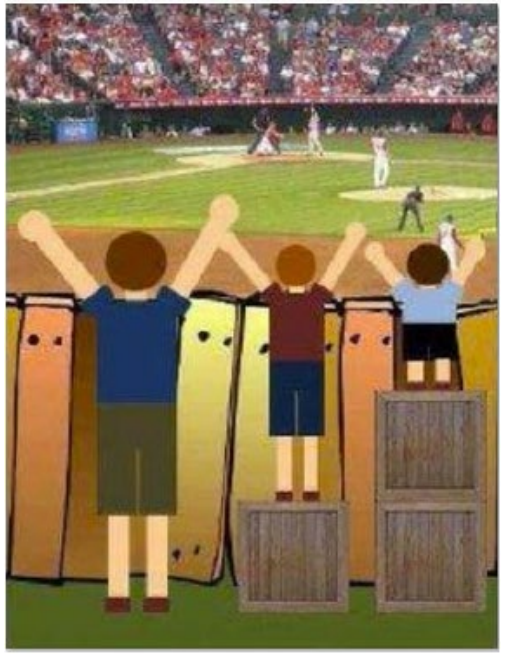
Eliminating disparities is the pathway to health equity



Disparity



Equality



Equity

Courtesy of Lisa Cooper, MD

America: Equity and Equality in Health 3

Structural racism and health inequities in the USA: evidence and interventions

Zinzi D Bailey, Nancy Krieger, Madina Agénor, Jasmine Graves, Natalia Linos, Mary T Bassett

Structural racism refers to the totality of ways in which societies foster racial discrimination through mutually reinforcing systems of housing, education, employment, earnings, benefits, credit, media, *health care*, and criminal justice

	Total	White non-Hispanic	Asian*	Hispanic or Latino	Black non-Hispanic†	Native American or Alaska Native
Wealth: median household assets (2011)	$68 828	$110 500	$89 339	$7683	$6314	NR
Poverty: proportion living below poverty level, all ages (2014); children <18 years (2014)	14·8%; 21·0%	10·1%; 12·0%	12·0%; 12·0%	23·6%; 32·0%	26·2%; 38·0%	28·3%; 35·0%
Unemployment rate (2014)	6·2%	5·3%	5·0%	7·4%	11·3%	11·3%
Incarceration: male inmates per 100 000 (2008)	982	610	185	836	3611	1573
Proportion with no health insurance, age <65 years (2014)	13·3%	13·3%	10·8%	25·5%	13·7%	28·3%
Infant mortality per 1000 livebirths (2013)	6·0	5·1	4·1	5·0	10·8	7·6
Self-assessed health status (age-adjusted): proportion with fair or poor health (2014)	8·9%	8·3%	7·3%	12·2%	13·6%	14·1%
Potential life lost: person-years per 100 000 before the age of 75 years (2014)	6621·1	6659·4	2954·4	4676·8	9490·6	6954·0
Proportion reporting serious psychological distress‡ in the past 30 days, age ≥18 years, age-adjusted (2013–14)	3·4%	3·4%	3·5%	1·9%	4·5%	5·4%
Life expectancy at birth (2014), years	78·8	79·0	NR	81·8	75·6	NR
Diabetes-related mortality: age-adjusted mortality per 100 000 (2014)	20·9	19·3	15·0	25·1	37·3	31·3
Mortality related to heart disease: age-adjusted mortality per 100 000 (2014)	167·0	165·9	86·1	116·0	206·3	119·1

NR=not reported. *Economic data and data on self-reported health and psychological distress are for Asians only; all other health data reported combine Asians and Pacific Islanders. †Wealth, poverty, and potential life lost before the age of 75 years are reported for the black population only; all other data are for the black non-Hispanic population. ‡Serious psychological distress in the past 30 days among adults aged 18 years and older is measured using the Kessler 6 scale (range=0–24; serious psychological distress: ≥13). Sources: wealth data taken from the US Census;[1] poverty data for adults taken from the National Center for Health Statistics,[2] and poverty data for children taken from the National Center for Education Statistics;[3] unemployment data taken from the US Bureau of Labor Statistics;[4] incarceration data taken from the Kaiser Family Foundation;[5] data on uninsured individuals taken from the National Center for Health Statistics;[2] data on infant mortality, self-assessed health status, potential life lost, serious psychological distress, life expectancy, diabetes-related mortality, and mortality related to heart disease taken from the National Center for Health Statistics.[2]

***Table*: Social and health inequities in the USA**

	Total	White non-Hispanic	Asian*	Hispanic or Latino	Black non-Hispanic†	Native American or Alaska Native
Wealth: median household assets (2011)	$68 828	$110 500	$89 339	$7683	$6314	NR
Poverty: proportion living below poverty level, all ages (2014); children <18 years (2014)	14·8%; 21·0%	10·1%; 12·0%	12·0%; 12·0%	23·6%; 32·0%	26·2%; 38·0%	28·3%; 35·0%
Unemployment rate (2014)	6·2%	5·3%	5·0%	7·4%	11·3%	11·3%
Incarceration: male inmates per 100 000 (2008)	982	610	185	836	3611	1573
Proportion with no health insurance, age <65 years (2014)	13·3%	13·3%	10·8%	25·5%	13·7%	28·3%
Infant mortality per 1000 livebirths (2013)	6·0	5·1	4·1	5·0	10·8	7·6
Self-assessed health status (age-adjusted): proportion with fair or poor health (2014)	8·9%	8·3%	7·3%	12·2%	13·6%	14·1%
Potential life lost: person-years per 100 000 before the age of 75 years (2014)	6621·1	6659·4	2954·4	4676·8	9490·6	6954·0
Proportion reporting serious psychological distress‡ in the past 30 days, age ≥18 years, age-adjusted (2013–14)	3·4%	3·4%	3·5%	1·9%	4·5%	5·4%
Life expectancy at birth (2014), years	78·8	79·0	NR	81·8	75·6	NR
Diabetes-related mortality: age-adjusted mortality per 100 000 (2014)	20·9	19·3	15·0	25·1	37·3	31·3
Mortality related to heart disease: age-adjusted mortality per 100 000 (2014)	167·0	165·9	86·1	116·0	206·3	119·1

NR=not reported. *Economic data and data on self-reported health and psychological distress are for Asians only; all other health data reported combine Asians and Pacific Islanders. †Wealth, poverty, and potential life lost before the age of 75 years are reported for the black population only; all other data are for the black non-Hispanic population. ‡Serious psychological distress in the past 30 days among adults aged 18 years and older is measured using the Kessler 6 scale (range=0–24; serious psychological distress: ≥13). Sources: wealth data taken from the US Census;[1] poverty data for adults taken from the National Center for Health Statistics,[2] and poverty data for children taken from the National Center for Education Statistics;[3] unemployment data taken from the US Bureau of Labor Statistics;[4] incarceration data taken from the Kaiser Family Foundation;[5] data on uninsured individuals taken from the National Center for Health Statistics;[2] data on infant mortality, self-assessed health status, potential life lost, serious psychological distress, life expectancy, diabetes-related mortality, and mortality related to heart disease taken from the National Center for Health Statistics.[2]

***Table*: Social and health inequities in the USA**

	Total	White non-Hispanic	Asian*	Hispanic or Latino	Black non-Hispanic†	Native American or Alaska Native
Wealth: median household assets (2011)	$68 828	$110 500	$89 339	$7683	$6314	NR
Poverty: proportion living below poverty level, all ages (2014); children <18 years (2014)	14·8%; 21·0%	10·1%; 12·0%	12·0%; 12·0%	23·6%; 32·0%	26·2%; 38·0%	28·3%; 35·0%
Unemployment rate (2014)	6·2%	5·3%	5·0%	7·4%	11·3%	11·3%
Incarceration: male inmates per 100 000 (2008)	982	610	185	836	3611	1573
Proportion with no health insurance, age <65 years (2014)	13·3%	13·3%	10·8%	25·5%	13·7%	28·3%
Infant mortality per 1000 livebirths (2013)	6·0	5·1	4·1	5·0	10·8	7·6
Self-assessed health status (age-adjusted): proportion with fair or poor health (2014)	8·9%	8·3%	7·3%	12·2%	13·6%	14·1%
Potential life lost: person-years per 100 000 before the age of 75 years (2014)	6621·1	6659·4	2954·4	4676·8	9490·6	6954·0
Proportion reporting serious psychological distress‡ in the past 30 days, age ≥18 years, age-adjusted (2013–14)	3·4%	3·4%	3·5%	1·9%	4·5%	5·4%
Life expectancy at birth (2014), years	78·8	79·0	NR	81·8	75·6	NR
Diabetes-related mortality: age-adjusted mortality per 100 000 (2014)	20·9	19·3	15·0	25·1	37·3	31·3
Mortality related to heart disease: age-adjusted mortality per 100 000 (2014)	167·0	165·9	86·1	116·0	206·3	119·1

NR=not reported. *Economic data and data on self-reported health and psychological distress are for Asians only; all other health data reported combine Asians and Pacific Islanders. †Wealth, poverty, and potential life lost before the age of 75 years are reported for the black population only; all other data are for the black non-Hispanic population. ‡Serious psychological distress in the past 30 days among adults aged 18 years and older is measured using the Kessler 6 scale (range=0–24; serious psychological distress: ≥13). Sources: wealth data taken from the US Census;[1] poverty data for adults taken from the National Center for Health Statistics,[2] and poverty data for children taken from the National Center for Education Statistics;[3] unemployment data taken from the US Bureau of Labor Statistics;[4] incarceration data taken from the Kaiser Family Foundation;[5] data on uninsured individuals taken from the National Center for Health Statistics;[2] data on infant mortality, self-assessed health status, potential life lost, serious psychological distress, life expectancy, diabetes-related mortality, and mortality related to heart disease taken from the National Center for Health Statistics.[2]

***Table*: Social and health inequities in the USA**

	Total	White non-Hispanic	Asian*	Hispanic or Latino	Black non-Hispanic†	Native American or Alaska Native
Wealth: median household assets (2011)	$68 828	$110 500	$89 339	$7683	$6314	NR
Poverty: proportion living below poverty level, all ages (2014); children <18 years (2014)	14·8%; 21·0%	10·1%; 12·0%	12·0%; 12·0%	23·6%; 32·0%	26·2%; 38·0%	28·3%; 35·0%
Unemployment rate (2014)	6·2%	5·3%	5·0%	7·4%	11·3%	11·3%
Incarceration: male inmates per 100 000 (2008)	982	610	185	836	3611	1573
Proportion with no health insurance, age <65 years (2014)	13·3%	13·3%	10·8%	25·5%	13·7%	28·3%
Infant mortality per 1000 livebirths (2013)	6·0	5·1	4·1	5·0	10·8	7·6
Self-assessed health status (age-adjusted): proportion with fair or poor health (2014)	8·9%	8·3%	7·3%	12·2%	13·6%	14·1%
Potential life lost: person-years per 100 000 before the age of 75 years (2014)	6621·1	6659·4	2954·4	4676·8	9490·6	6954·0
Proportion reporting serious psychological distress‡ in the past 30 days, age ≥18 years, age-adjusted (2013–14)	3·4%	3·4%	3·5%	1·9%	4·5%	5·4%
Life expectancy at birth (2014), years	78·8	79·0	NR	81·8	75·6	NR
Diabetes-related mortality: age-adjusted mortality per 100 000 (2014)	20·9	19·3	15·0	25·1	37·3	31·3
Mortality related to heart disease: age-adjusted mortality per 100 000 (2014)	167·0	165·9	86·1	116·0	206·3	119·1

NR=not reported. *Economic data and data on self-reported health and psychological distress are for Asians only; all other health data reported combine Asians and Pacific Islanders. †Wealth, poverty, and potential life lost before the age of 75 years are reported for the black population only; all other data are for the black non-Hispanic population. ‡Serious psychological distress in the past 30 days among adults aged 18 years and older is measured using the Kessler 6 scale (range=0–24; serious psychological distress: ≥13). Sources: wealth data taken from the US Census;[1] poverty data for adults taken from the National Center for Health Statistics,[2] and poverty data for children taken from the National Center for Education Statistics;[3] unemployment data taken from the US Bureau of Labor Statistics;[4] incarceration data taken from the Kaiser Family Foundation;[5] data on uninsured individuals taken from the National Center for Health Statistics;[2] data on infant mortality, self-assessed health status, potential life lost, serious psychological distress, life expectancy, diabetes-related mortality, and mortality related to heart disease taken from the National Center for Health Statistics.[2]

***Table*: Social and health inequities in the USA**


The New York Times
Opinion
Racism's Hidden Toll
In America, how long you live depends on the color of your skin.
By Gus Wezerek Aug. 11, 2020

National Vital Statistics System

Figure 2. Life expectancy at birth, by Hispanic origin and race: United States, 2019 and 2020

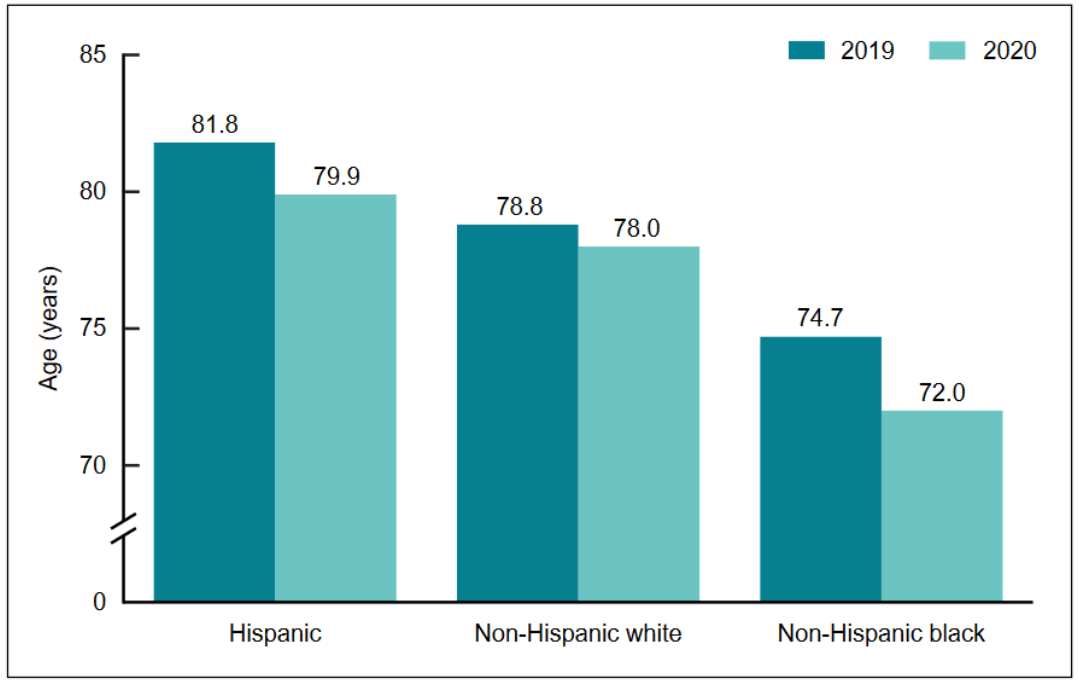
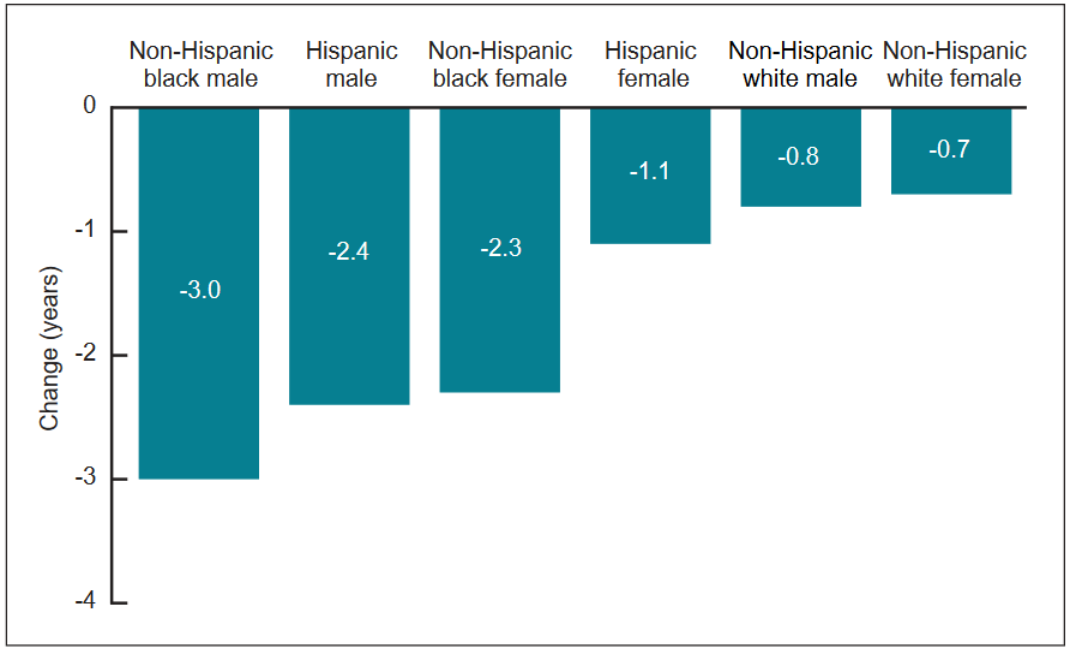


Figure 4. Change in life expectancy at birth, by Hispanic origin and race and sex: United States, 2019 and 2020



- *“When you’re in the middle of a crisis, like we are now with the coronavirus, it really does…ultimately shine a very bright light on some of the real weaknesses and foibles in our society.”* — *Anthony Fauci, Director of the National Institute of Allergy & Infectious Diseases, White House Coronavirus Task Force*

Health Inequities

Preserving Vision in the COVID-19 Pandemic: Focus on Health Equity

Inequity and the disproportionate impact of COVID-19 on communities of color in the United States: The need for a trauma-informed social justice response

Lisa R Fortuna [1], Marina Tolou-Shams [1], Barbara Robles-Ramamurthy [2], Michelle V Porche [1]

COVID-19 Interconnectedness: Health Inequity, the Climate Crisis, and Collective Trauma

Marlene F Watson [1], Gonzalo Bacigalupe [2], Manijeh Daneshpour [3], Wen-Jui Han [4], Rubén Parra-Cardona [5]

The COVID-19 pandemic and health inequalities

Clare Bambra [1], Ryan Riordan [2], John Ford [2], Fiona Matthews [3]

COVID-19 and the other pandemic: populations made vulnerable by systemic inequity

Darrell M Gray 2nd [1] [2], Adjoa Anyane-Yeboa [3], Sophie Balzora [4], Rachel B Issaka [5] [6], Folasade P May [7] [8]

Viewpoint

ONLINE FIRST

October 8, 2020

Strategies to Address Racial and Ethnic Disparities in Vision Care Research

Alice J. Liu, BA[1]; David S. Friedman, MD, PhD, MPH[2]; Megan E. Collins, MD, MPH[1,3]

» Author Affiliations | Article Information

JAMA Ophthalmol. Published online October 8, 2020. doi:10.1001/jamaophthalmol.2020.3969

Last paragraph

To tackle the elevated burden of eye diseases facing marginalized communities, we need to promise and fulfill our commitment to increased racial and ethnic inclusion in clinical trials. Without addressing this important issue, we risk perpetuating, rather than resolving current health disparities. Progress from investigators and institutions alike will help to alleviate the burden many underserved populations face in ophthalmology and vision care.

Ophthalmology. 2017 Oct; 124(10): 1442–1448.
PMID: 28583710
Published online 2017 Jun 2. doi: 10.1016/j.ophtha.2017.05.003

Large Disparities in Receipt of Glaucoma Care Between Enrollees in Medicaid and Those with Commercial Health Insurance

Angela R. Elam, MD,[1,2] Chris Andrews, PhD,[1,2] David C. Musch, PhD, MPH,[1,2,3] Paul P. Lee, MD, JD,[1,2] and Joshua D. Stein, MD, MS[1,2,4]

Purpose

Assess utilization of diagnostic testing in patients with newly-diagnosed open angle glaucoma (OAG) within 15 months of initial diagnosis

Compare utilization:

- By insurance type (Medicaid vs commercial insurance)
  - Stratify by race (White, Black, Latino)

Methods

Data Sources

- Medicaid Analytic Extract (MAX)
- Clinformatics DataMart (OptumInsight)

Inclusion criteria

- New diagnosis of OAG between 2007 and 2009 with no diagnosis in prior 2 years
- OAG diagnosis code on ≥ 2 different days
- Continuous plan enrollment ≥ 3 years
- Age ≥ 40 at time of diagnosis

Methods

Glaucoma testing within 15 months of initial diagnosis

- Visual field (VF) (92091, 92092, 92093)
- Fundus photography (FP) (92250)
- Other ocular imaging (OOI, e.g. OCT) (92135)

Logistic regression modeling

- Outcome variable = 1 or more test
- Predictor variables= insurance type, race

Demographics

	Medicaid	Commercial
Eligible, n	2123	9444
Mean age at diagnosis, (sd)	56 (7)	63 (11)
40s, n (%)	464 (22)	1090 (12)
50s	967 (46)	2833 (30)
60s	653 (31)	2929 (31)
70+	39 (2)	2592 (27)
Female, n (%)	1268 (60)	5009 (53)
Race, n (%)		
White	1034 (49)	7477 (79)
Black	846 (40)	1212 (13)
Latino	243 (11)	755 (8)

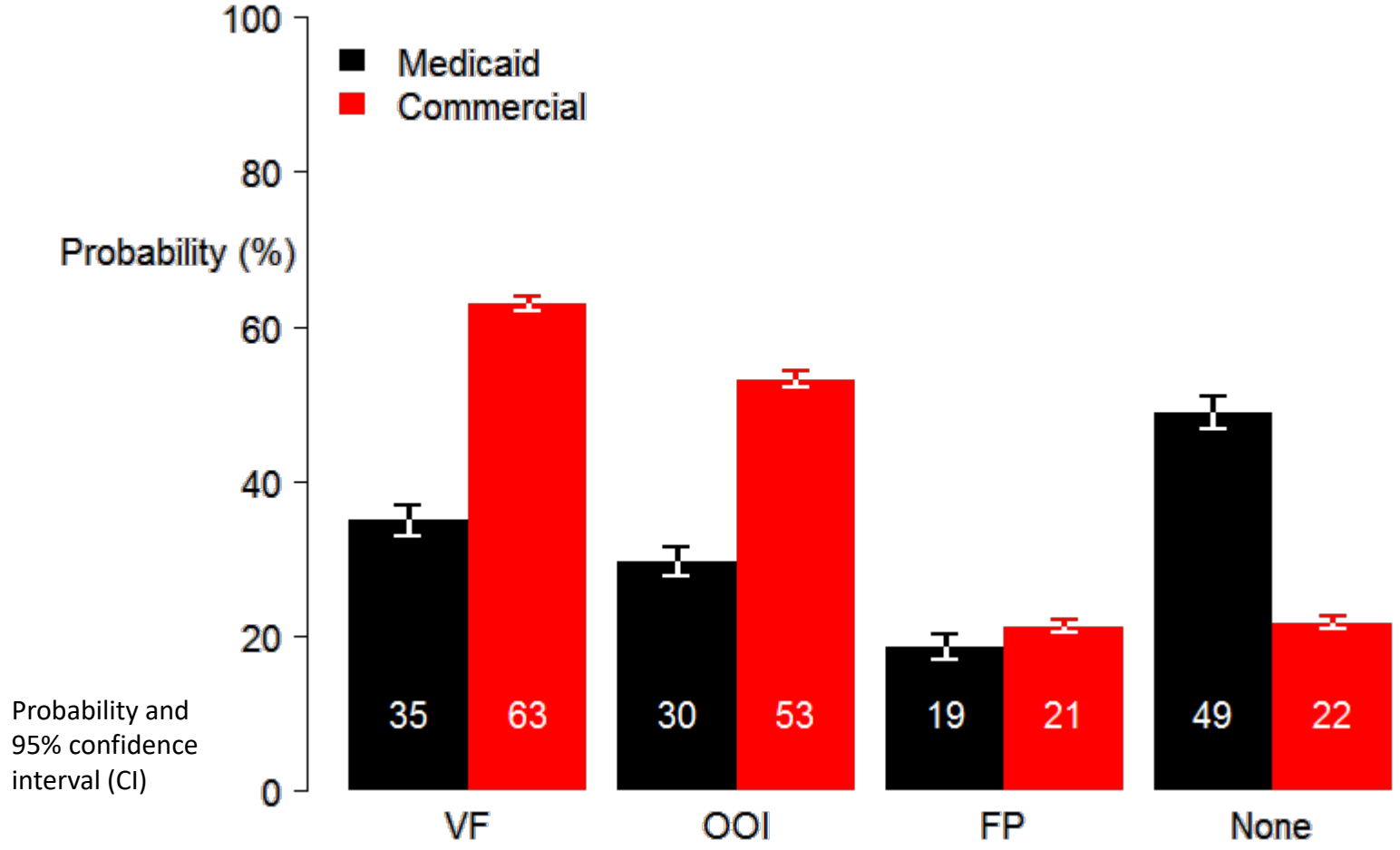
Relative to Optum, Medicaid enrollees with new OAG are ***younger***, more ***female***, and more ***racially diverse***.

Demographics

	Medicaid	Commercial
Eligible, n	2123	9444
Mean age at diagnosis, (sd)	56 (7)	63 (11)
40s, n (%)	464 (22)	1090 (12)
50s	967 (46)	2833 (30)
60s	653 (31)	2929 (31)
70+	39 (2)	2592 (27)
Female, n (%)	1268 (60)	5009 (53)
Race, n (%)		
White	1034 (49)	7477 (79)
Black	846 (40)	1212 (13)
Latino	243 (11)	755 (8)

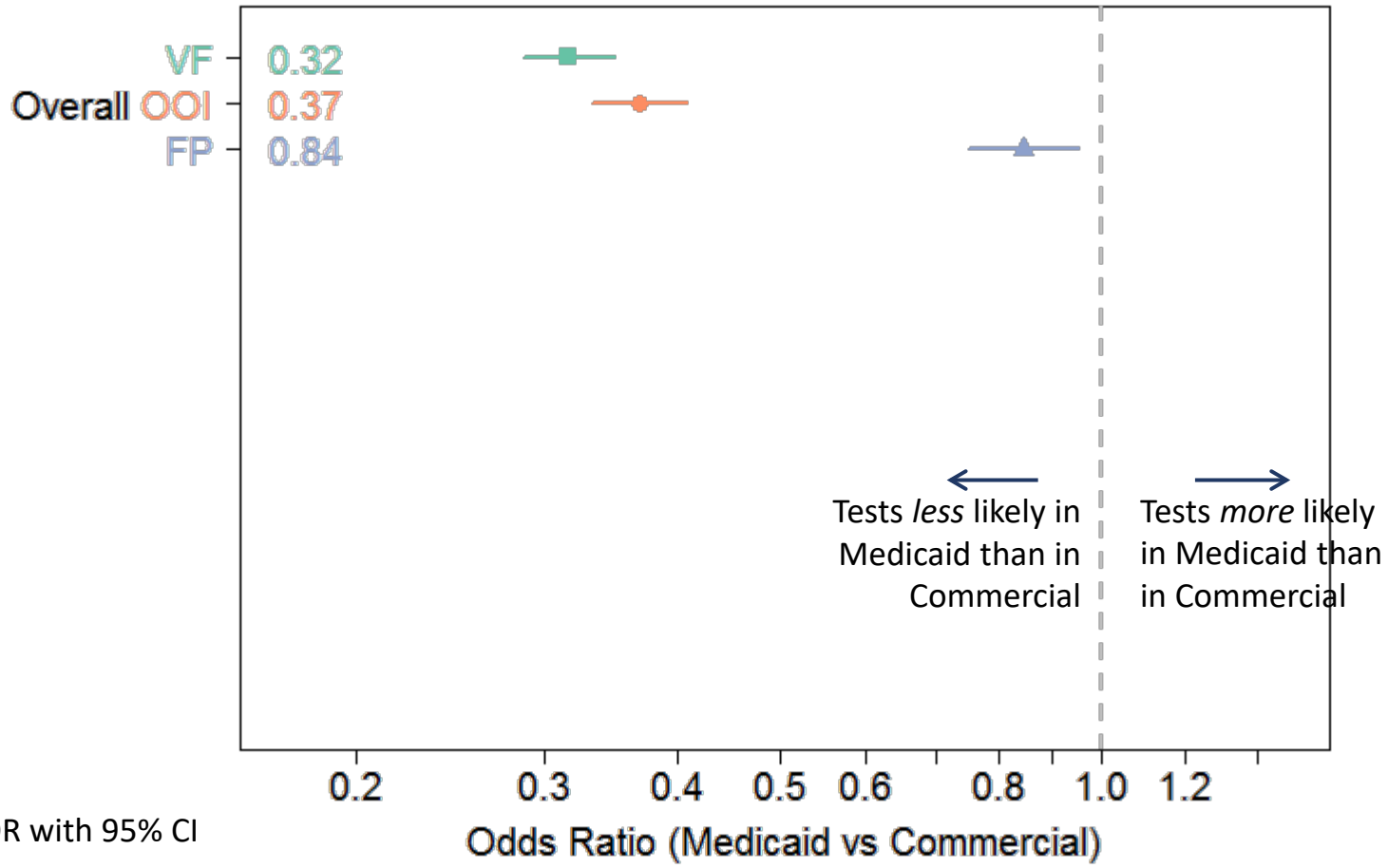
Relative to Optum, Medicaid enrollees with new OAG are ***younger***, more ***female***, and more ***racially diverse***.

Probability of test within 15 months of diagnosis



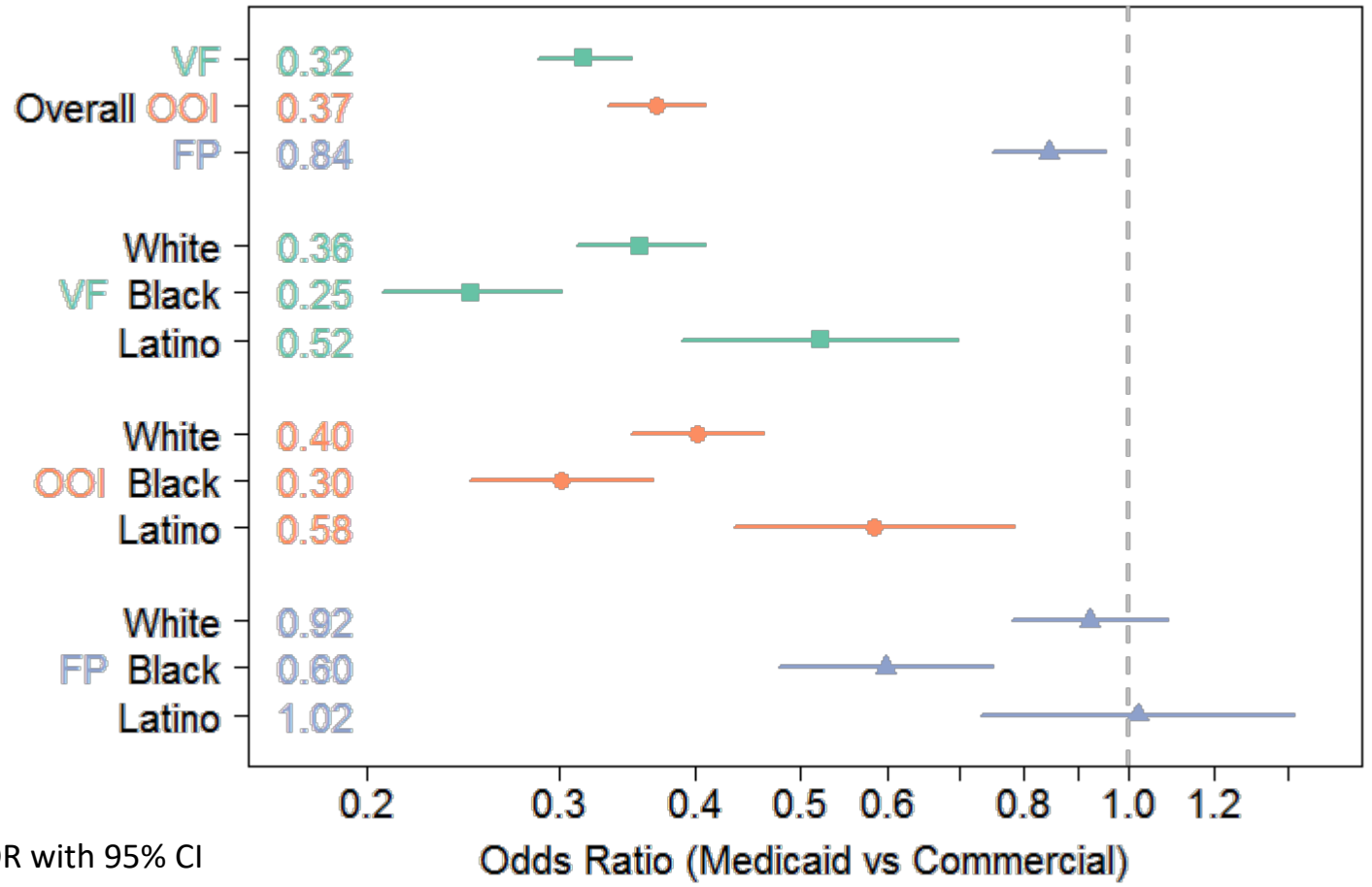
Probability and 95% confidence interval (CI)

Comparing odds of each test in Medicaid to odds of each test in Commercial



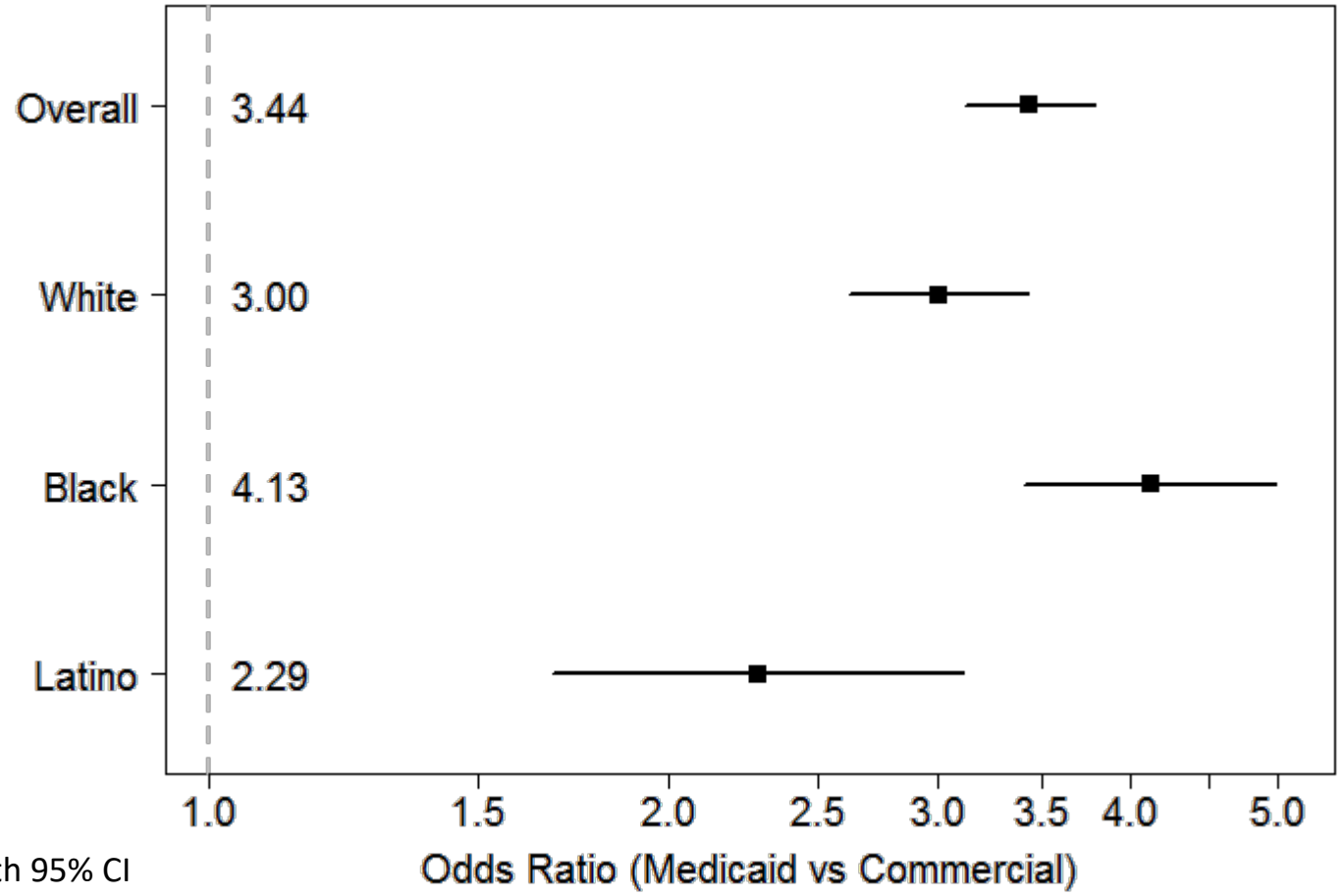
OR with 95% CI

Comparing odds of each test in Medicaid to odds of each test in Commercial



OR with 95% CI

Comparing odds of No Test in Medicaid to odds of No Test in Commercial



OR with 95% CI

Conclusions

Medicaid patients receive less glaucoma testing of all types than those with commercial health insurance

Disparities are present in all races studied, but most dramatic among Blacks

Health policymakers and eye care providers should explore possible etiologies for these disparities and identify solutions

Final points

EDITORIAL

Improving Racial Diversity in the Ophthalmology Workforce: A Call to Action for Leaders in Ophthalmology

UGOCHI T. AGUWA, DIVYA SRIKUMARAN, NINITA BROWN, AND FASIKA WORETA

Call to Action

- leaders in ophthalmology must advance into a state of conscious competence to eradicate injustice and disparities in health outcomes
- greater research support for projects that aim to eliminate racial and ethnic disparities
- encouraging discussions about racism
- involving more URM faculty in the medical school and residency applicant selection processes
- recognizing diversity efforts in the promotion pathway for faculty

Prevent Blindness

Focus on Eye Health
National Summit

Our Changing Vision

MASSACHUSETTS EYE AND EAR

HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Inequities in Population Health Research

David S. Friedman, MD, MPH, PhD

Albert and Diane Kaneb Professor

Director, Glaucoma Service

Co-Director, Glaucoma Center of Excellence

Massachusetts Eye and Ear

Determinants of health

Genetics

Environmental exposures

Behaviors

Acceptance of care

Quality of care

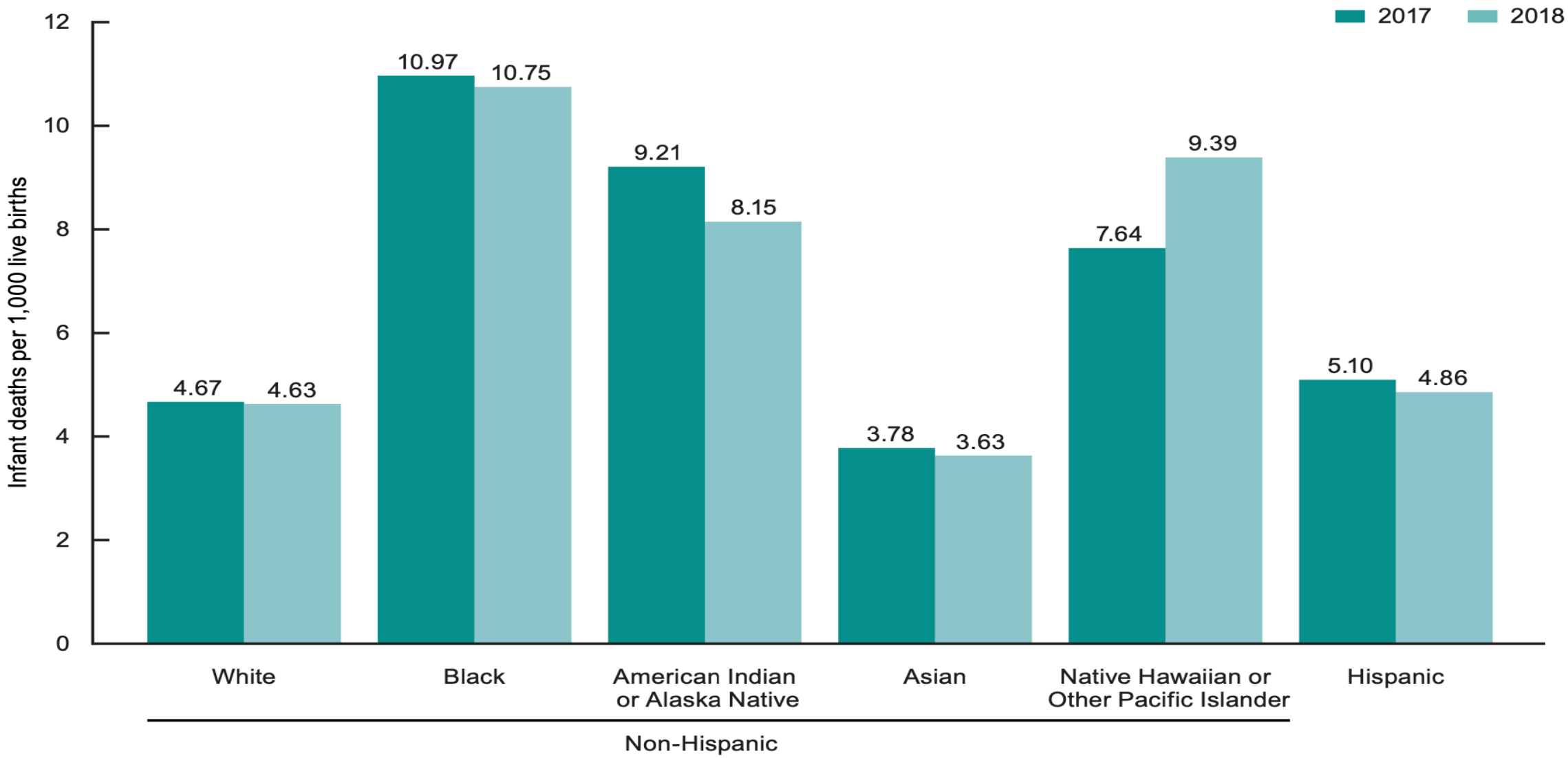
Substantial differences in health status by race

Incidence and prevalence of diseases

Morbidity

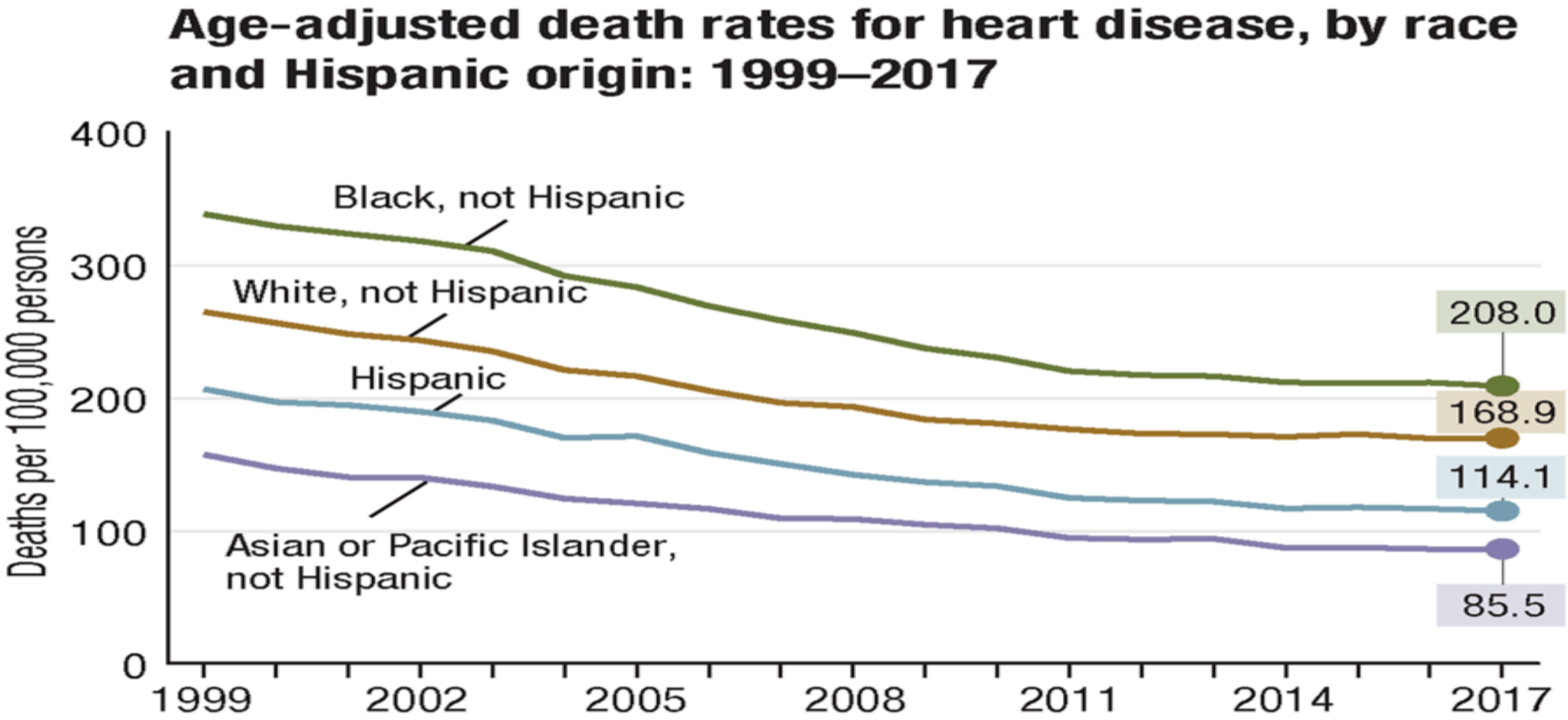
Access and healthcare utilization

Infant mortality higher among African Americans

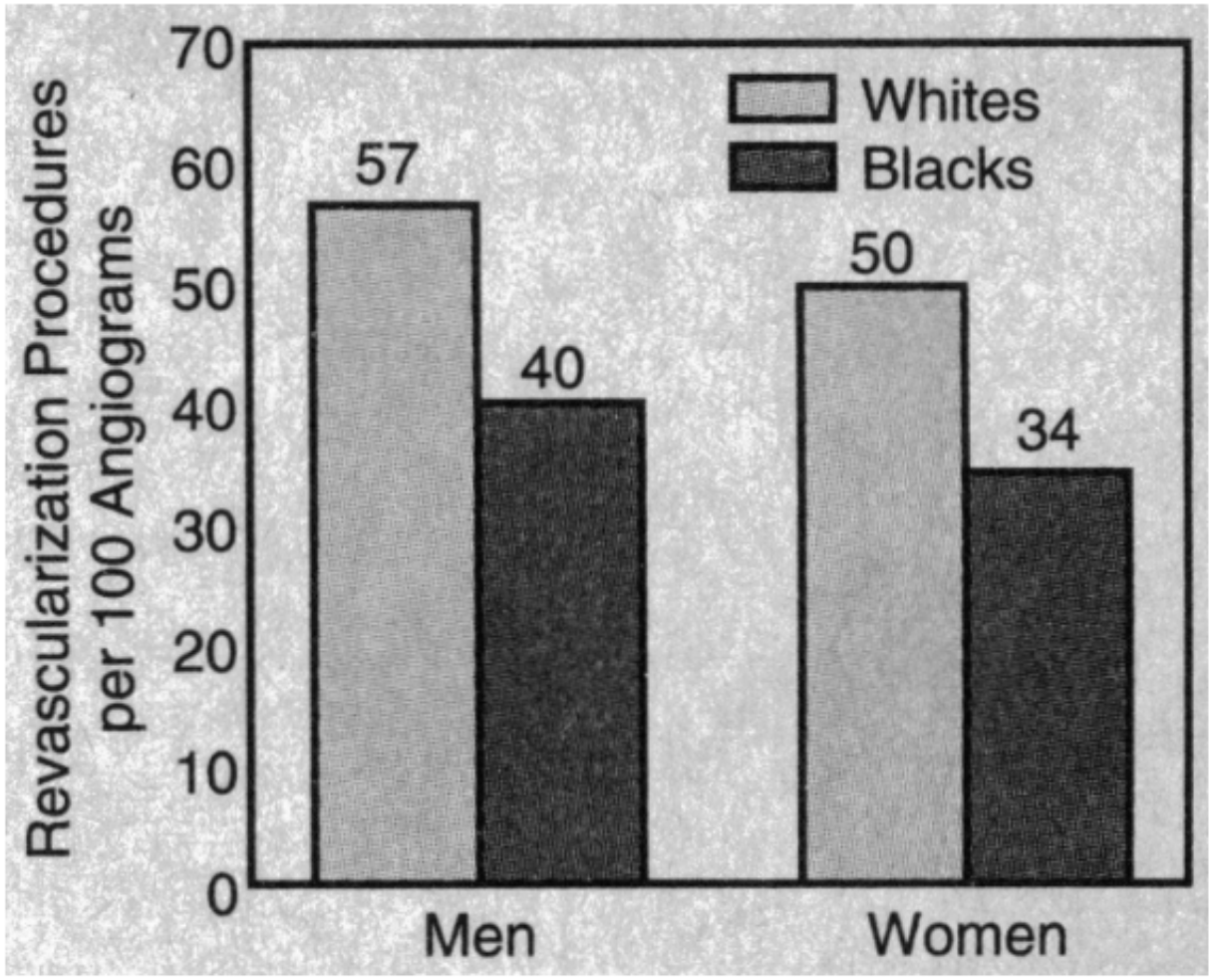


SOURCE: NCHS, National Vital Statistics System, Linked birth/infant death file.

NCHS death rates for heart disease

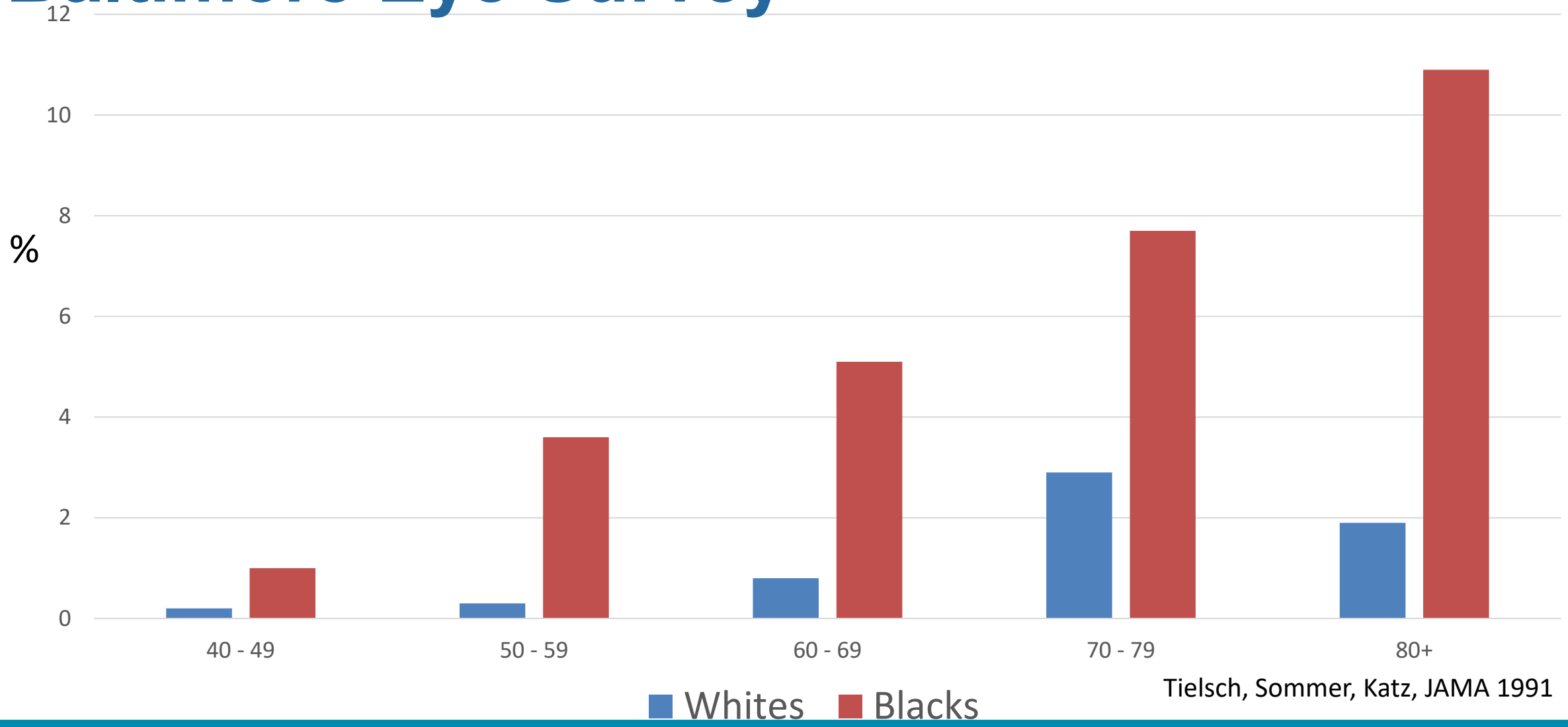


Rates of coronary revascularization



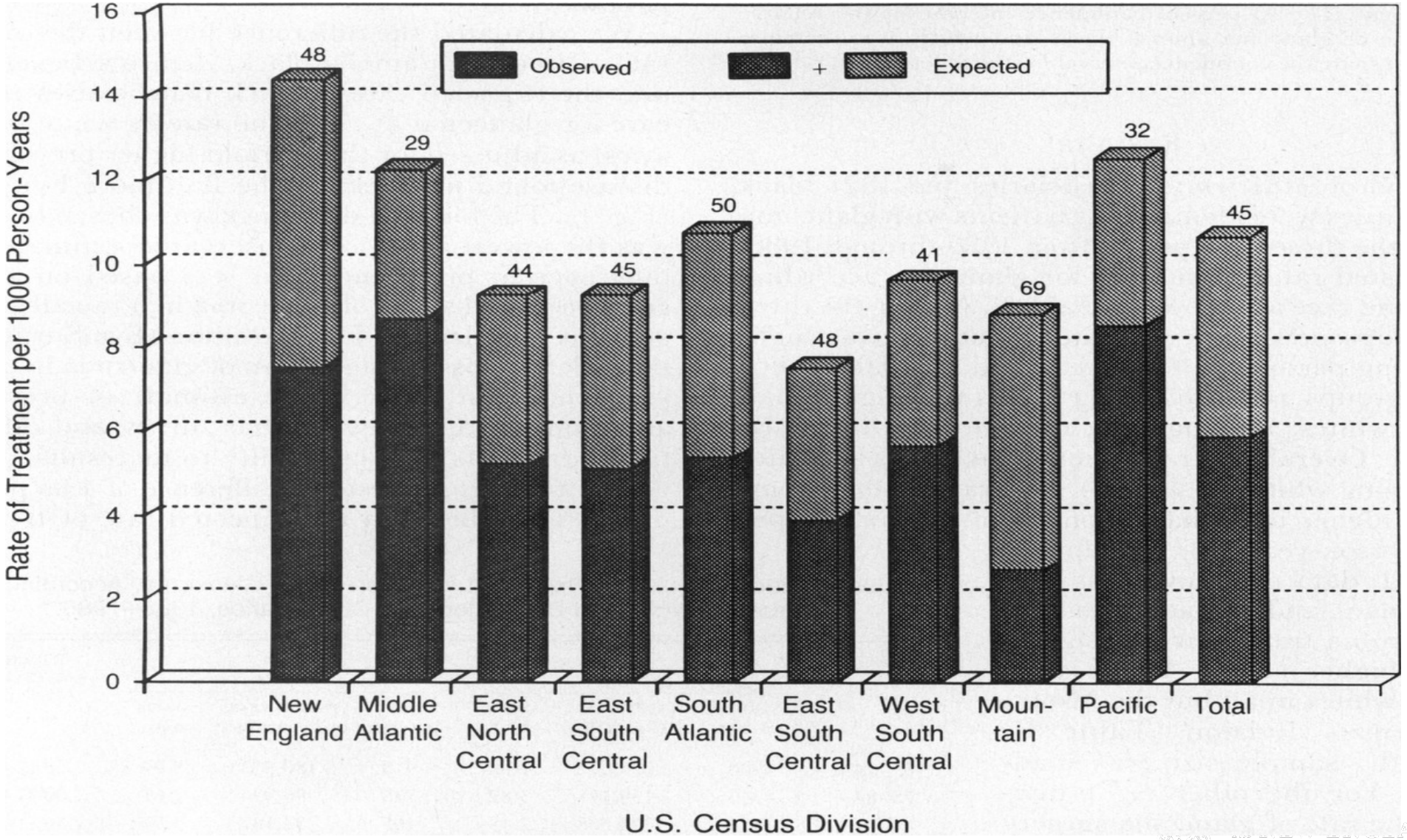
Ayanian JAMA 1993

Glaucoma more common: Baltimore Eye Survey



Tielsch, Sommer, Katz, JAMA 1991

Underperformance of glaucoma surgery



Javitt JC et al. N Engl J Med 1991;325:1418-1422.

Minorities not sufficiently included in eye studies

About 80% are white

10% are African American

10% Latino

5% Asian

Hamid, Invest. Ophthalmol. Vis. Sci.. 2019;60(9):5469.

Factors driving inequities

Lower investment

Barriers to participation

Lack of diverse research faculty

Limited community engagement

Unequal investments

Sickle cell disease versus cystic fibrosis

$1 in sickle cell disease research =

$3.50 NIH, $1.70 industry, $75.40 philanthropy

https://www.mcgowanhood.com/2020/10/12/sickle-cell-disease-cystic-fibrosis-disparities-in-federal-funding/

Important barriers to participation

Language

Lack of insurance, poorer access to care

Trust*

*George, AJPH, 2014

Need diverse faculty– Race/ Ethnicity

Faculty with greater knowledge of the affected communities likely have greater insight into relevance of study questions and interpretation of results

NIH provides diversity supplements

Will require building pipeline programs

Community engagement

Research questions often driven by researchers

Community engagement can help focus research on needs of diverse populations

Decreasing inequities in research

Educational programs for researchers

Engage communities to understand better the needs and concerns

Increase the diversity of researchers and engage clinicians who serve these communities

Decreasing inequities in research

Actively identify greater funding for at risk under-represented populations

Engage the IRB in the process

Track progress

Prevent Blindness

Focus on Eye Health
National Summit

Our Changing Vision