



SHINING A LIGHT ON RACIAL DISPARITIES IN STROKE



STROKE CARE NETWORK

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OBJECTIVES

Upon completion of this activity, participants will be able to:

1. Reflecting on the existing racial disparities in neurology in general and stroke in particular
2. Consider avenues to amend racial disparities
3. Summarize current strategies to decrease racial disparities



DISCLOSURES

- I have no disclosures.

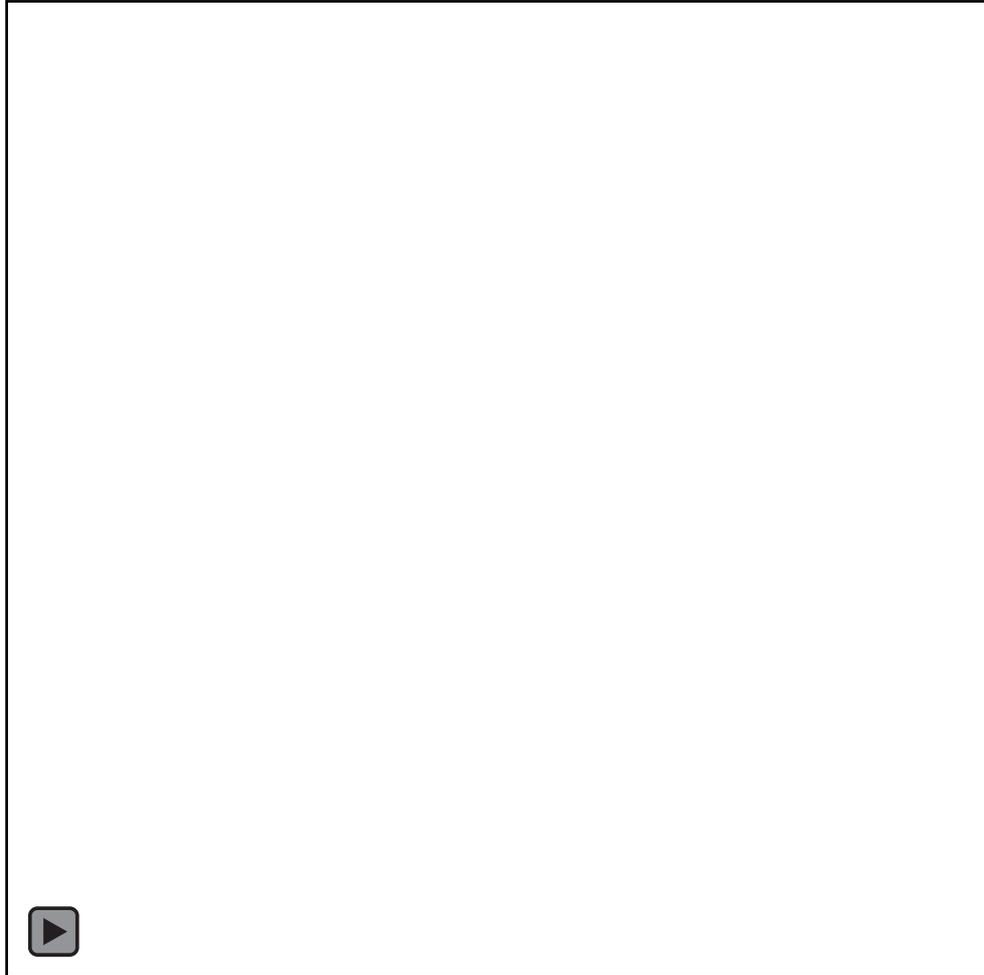


RACIAL DISPARITIES

THE NEUROLOGY WORKFORCE



A MESSAGE FROM A SON OF KENTUCKY



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WHY?

- 1971
- White representation and discussion of racial equality and inclusion are relevant **50 years later**
- Same questions can be asked about the medical field
 - Workforce
 - Health equity for patients
- How does this apply to:
 - Neurology
 - Stroke in particular



UNDERREPRESENTED IN MEDICINE (URM)

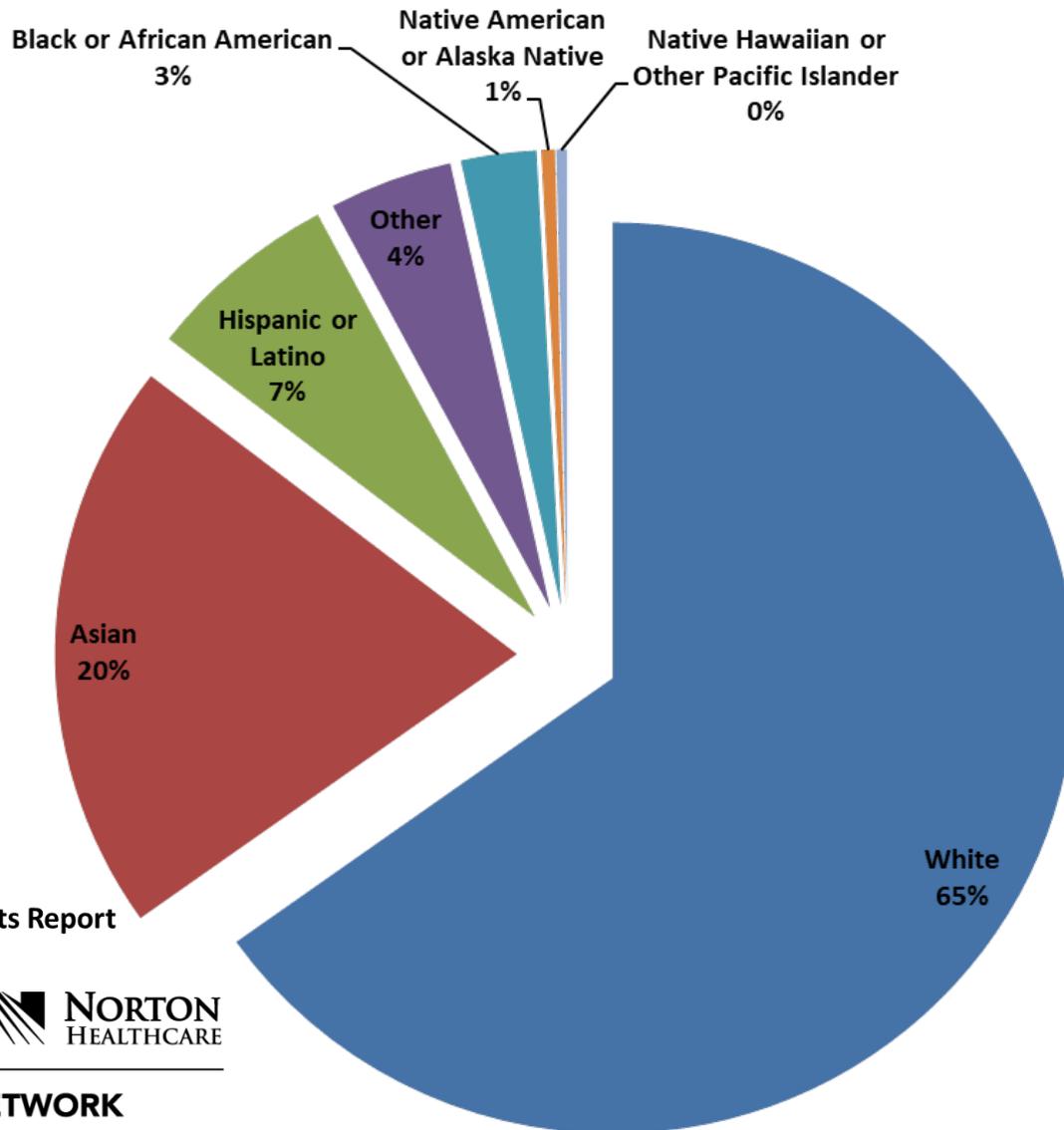
- Racial and ethnic populations that are underrepresented in the medical profession **relative to their numbers in the general population.**

(AAMC)

- Previously defined as **Blacks/African-American, Mexican-Americans, Native Americans** (i.e. American Indians, Alaska Natives, and Native Hawaiians), and mainland **Puerto Ricans**
 - AAMC remains committed to ensuring access to medical education and medicine-related careers for individuals from the four historically underrepresented racial/ethnic groups.



US NEUROLOGISTS BY RACE AND ETHNICITY



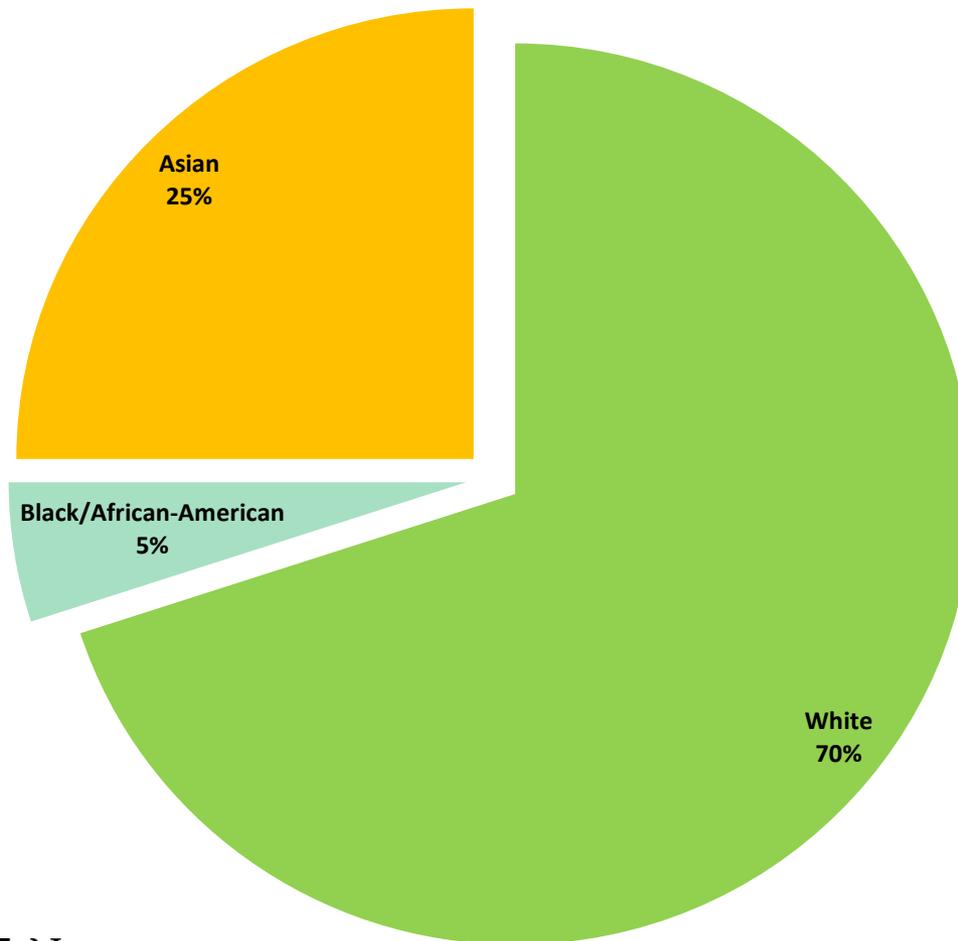
Source: AAN 2019 Insights Report



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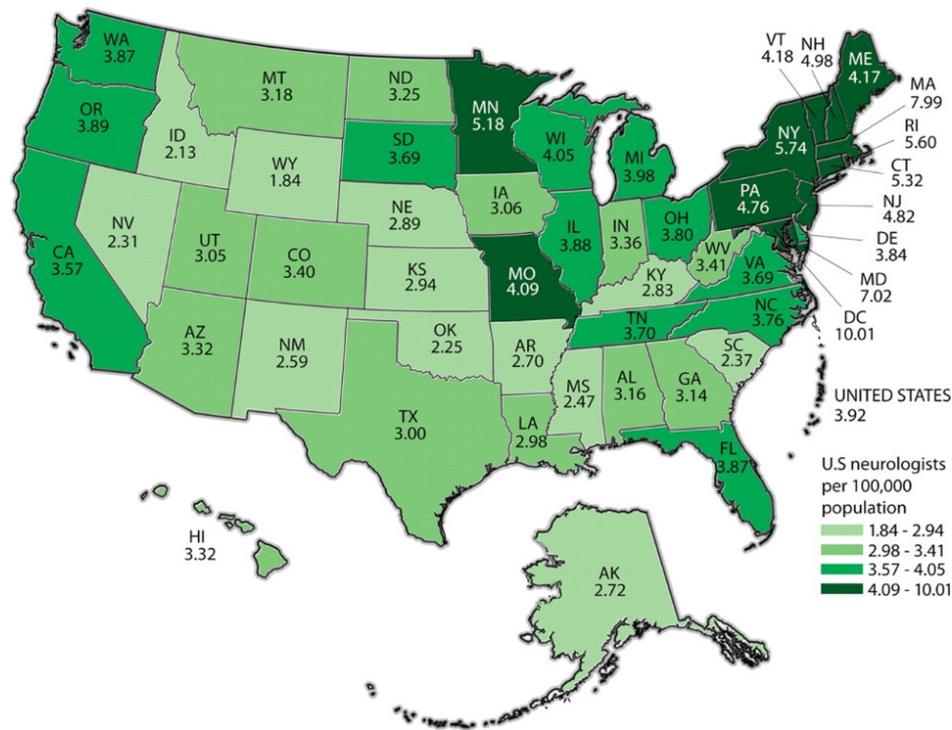
UKCOM NEUROLOGISTS BY RACE AND ETHNICITY (2019 DATA)



GEOGRAPHIC DISTRIBUTION OF US NEUROLOGISTS



- Southeastern USA
 - “Stroke belt”
 - 26% African-American
 - 13% of US population
 - Fewer neurologists per capita than the Northeast
- Statewide
 - California → largest minority population → 4 neurologist/100,000
 - Massachusetts → less diverse → 8 neurologists/100,000



Adornato BT, Drogan O, Thoresen P, Coleman M, Henderson VW, Henry KA, Liu L, Mortimer JA, Schneck MJ, Borenstein AR. The practice of neurology, 2000-2010: report of the AAN Member Research Subcommittee. *Neurology*. 2011 Nov 22;77(21):1921-8. doi: 10.1212/WNL.0b013e318238ee13. Epub 2011 Oct 26. PMID: 22031533.

IMPORTANCE OF DIVERSE PHYSICIAN WORKFORCE

- Physician workforce disparities affect patient care
 - “When health care providers have life experience that more closely matches the experiences of their patients, patients tend to be more satisfied with their care and to adhere to medical advice. This effect has been seen in studies addressing racial, ethnic, and sexual minority communities when the demographics of health care providers reflect those of underserved populations.”

Meeks LM, Jain NR. Accessibility, Disabilities, Inclusion, and Action in Medical Education: Lived Experiences of Learners and Physicians with, DC: Association of American Medical Colleges, 2018.



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IMPORTANCE OF DIVERSE PHYSICIAN WORKFORCE

- Workforce that reflects the gender, sexual, racial, religious, cultural and ethnic makeup of the population will ultimately lead to the **end of healthcare disparities**
- Improved understanding and respect of cultural differences
 - Between ourselves as colleagues
 - Between ourselves and our patients
- Improved quality of research
- Improved quality of life for all physicians
 - Supportive work environment
 - Potentially less burn-out



RACIAL DISPARITIES

PATIENTS WITH STROKE



RACIAL DISPARITIES IN STROKE

- Racial/ethnic minorities have a higher stroke risk and worse outcome than non-Hispanic whites
- Morbidity and mortality among US stroke patients are greatest among Black populations
 - Less disparity seen in older Black populations
- Racial disparities in stroke risk factors like hypertension
 - after controlling for sociodemographic and clinical characteristics, and for medication adherence



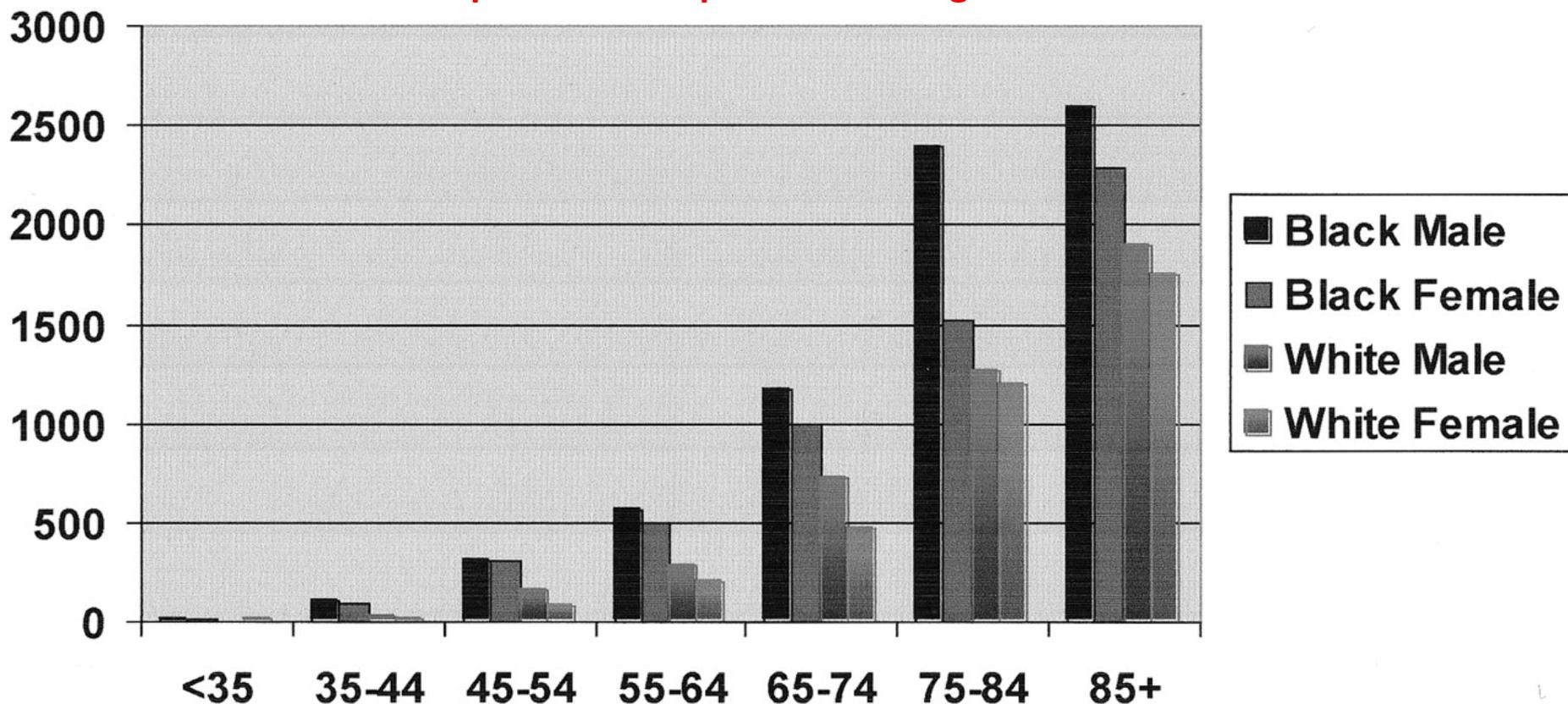
GCKSS

- Population of Greater Cincinnati/Northern Kentucky Metropolitan Area is similar to the general US population
 - Stroke incidence rate data can be applied to US population estimates





“This excess burden of stroke incidence among Blacks represents one of the most serious public health problems facing the United States.”



Age, race and sex-specific incidence rate of first-time stroke per 100,000.

NOMAS

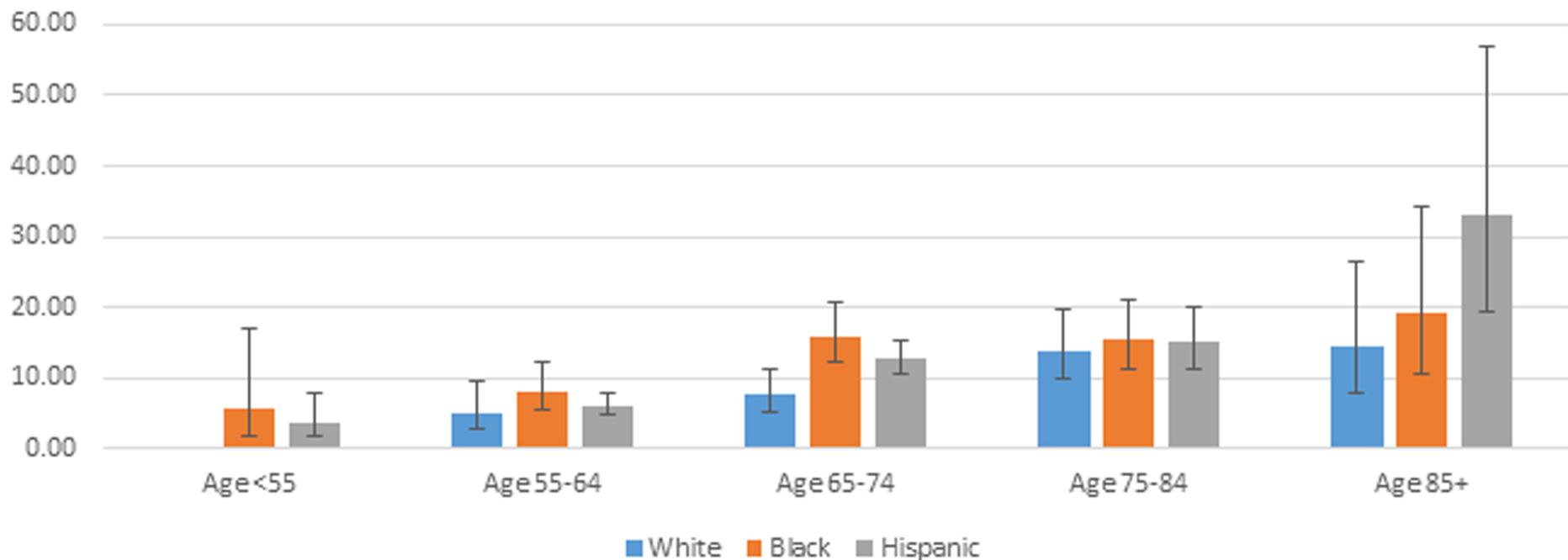
- Acknowledges stroke disparity in Black population compared to White population
- Aim of NOMAS is to describe stroke disparity in Hispanic ethnicity
 - All stroke incidence by race/ethnicity:
 - Blacks 13/1000 person-year
 - Hispanics 10/1000 person-year
 - Whites 9/1000 person-years
 - By age 85, the greatest incidence rate was in ***Hispanics***.
- Highlight the need to create culturally tailored campaigns to reach Black and Hispanic populations



NOMAS

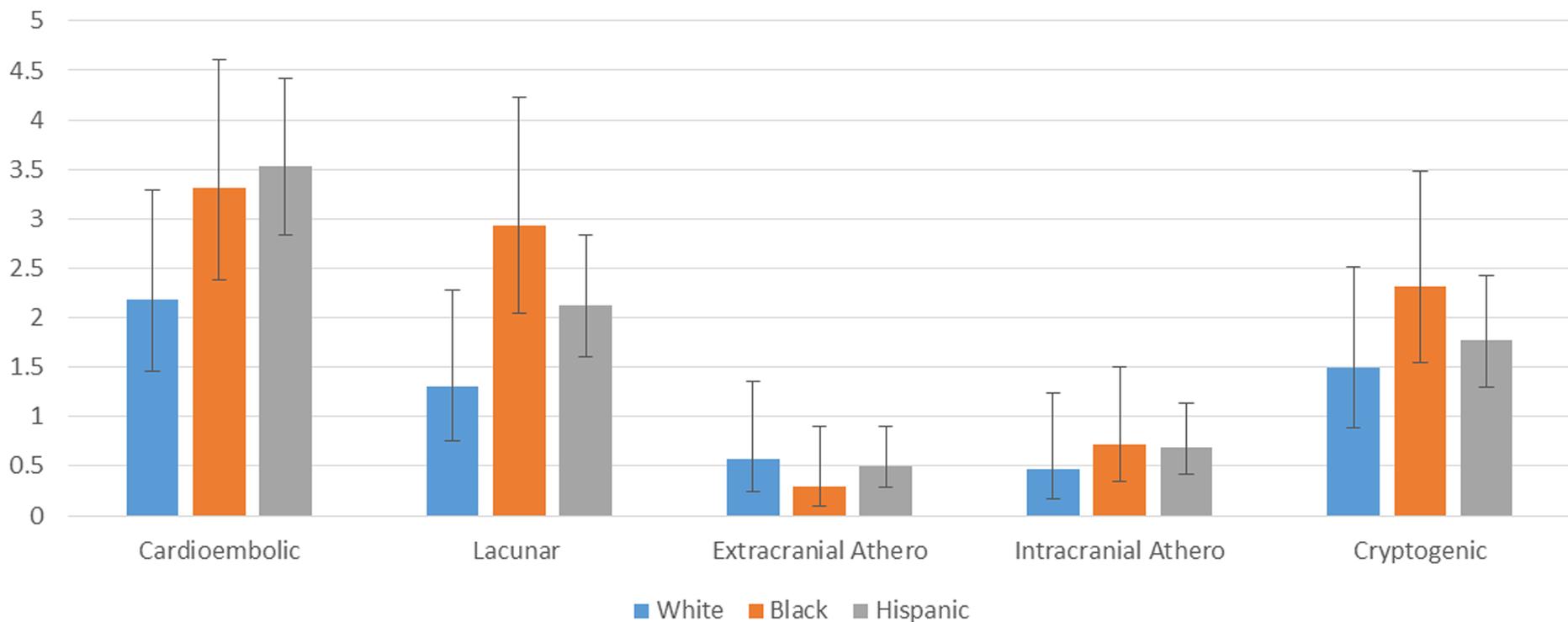


Crude incidence rates (per 1000 person-years), 95% CI for all stroke





Incidence rates for ischemic stroke subtypes
by race/ethnicity (per 1000 person/years, age- and sex-adjusted)



AVENUES TO AMEND RACIAL DISPARITIES

THE WAY FORWARD



“It is of paramount importance to recognize that inefficiencies and inequalities in the healthcare system drive these issues, and that **we should not blame the victims but rather look in the mirror for solutions.**”

-Lewis B. Morgenstern, MD and Brett M. Kissela, MD, MS (Stroke, 2015)



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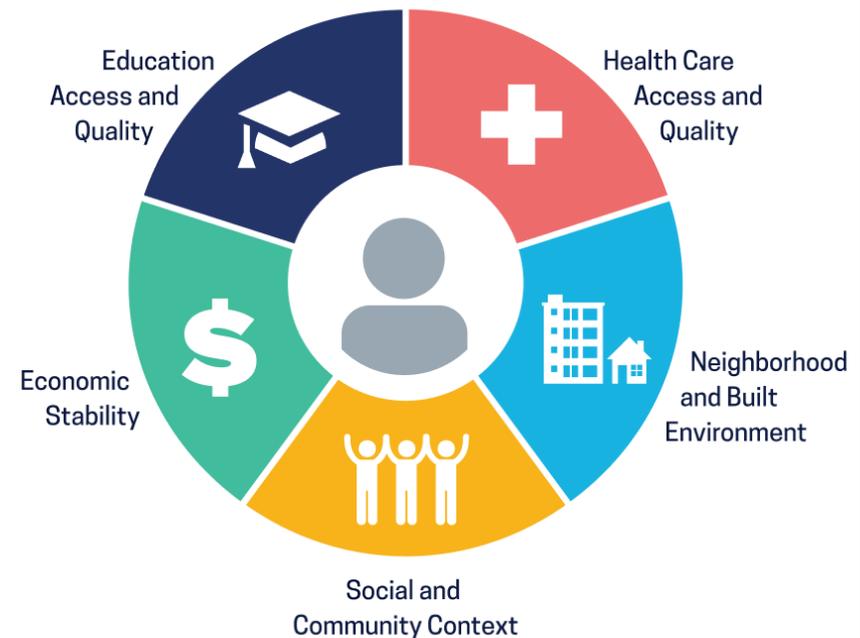


ACKNOWLEDGEMENT OF RACISM



- CDC has recognized that **racism** is a serious threat to public health
 - Race is not a predictor of disparities
 - Disparities are due to racial prejudice that result in structural inequalities
- Racism has negatively affected communities of color
 - Disproportionately impacts social determinants of health

Social Determinants of Health



Social Determinants of Health
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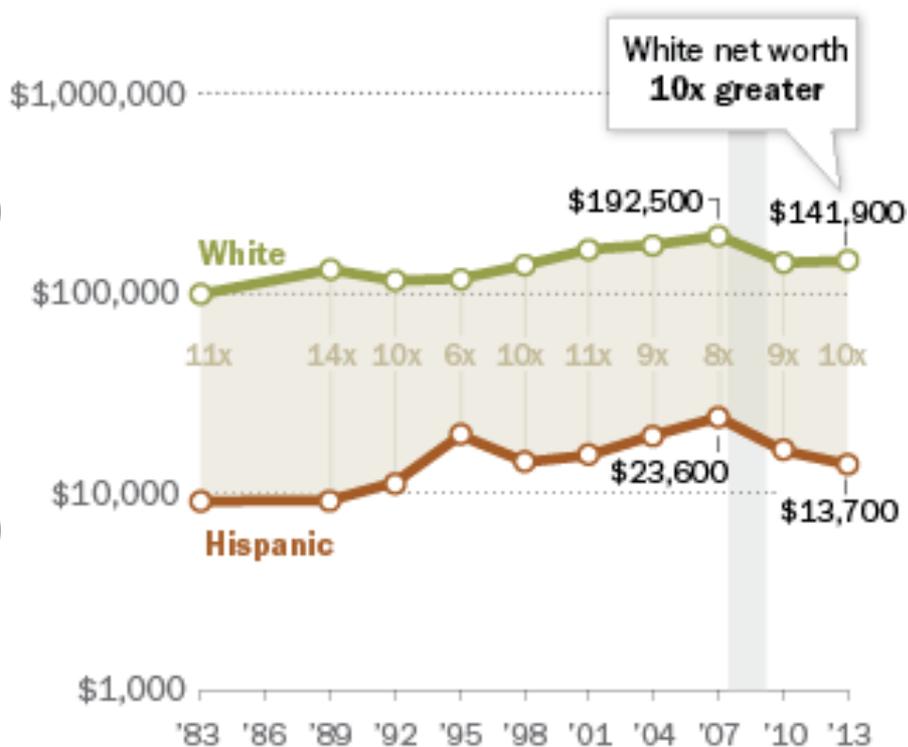
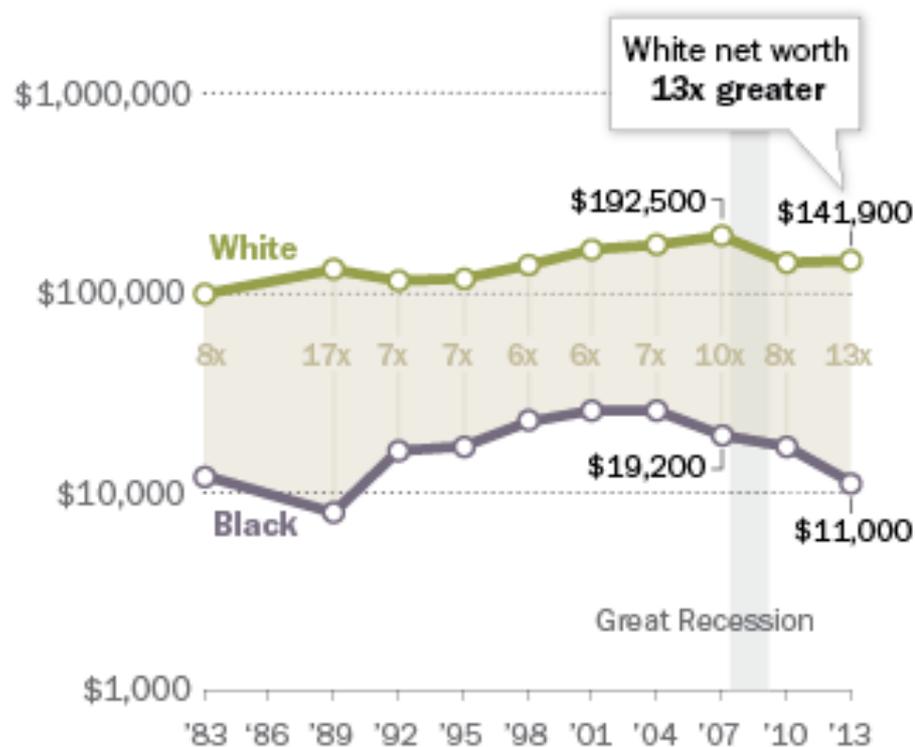
 Healthy People 2030

RACISM CONTRIBUTES TO STROKE DISPARITIES



Racial, Ethnic Wealth Gaps Have Grown Since Great Recession

Median net worth of households, in 2013 dollars



Notes: Blacks and whites include only non-Hispanics. Hispanics are of any race. Chart scale is logarithmic; each gridline is ten times greater than the gridline below it. Great Recession began Dec. '07 and ended June '09.

Source: Pew Research Center tabulations of Survey of Consumer Finances public-use data

ACKNOWLEDGEMENT OF PHYSICIAN BIAS



- Explicit and implicit racial biases
 - Most physicians do not overtly express negative feelings, but often have subconscious racial biases
 - “positive attitudes toward Whites and negative attitudes toward people of color” (Hall, et al)
 - Biases about medical “compliance”
 - Biases about clinical trial enrollment
 - Biases in language used toward Black patients
- Affects Black patients disproportionately
 - 80% see non-Black physicians
- Implicit Association Test (IAT)
 - 1998 (Greenwald, McGhee, Schwartz)
 - May reveal one has implicit attitude that they are not aware of

ORIGINAL RESEARCH

Do Physicians’ Implicit Views of African Americans Affect Clinical Decision Making?

M. Norman Oliver, MD, MA, Kristen M. Wells, MPH, PhD, Jennifer A. Joy-Gaba, PhD, Carlee Beth Hawkins, MA, and Brian A. Nosek, PhD

Physician Racial Bias and Word Use during Racially Discordant Medical Interactions

Nao Hagiwara^a, Richard B. Slatcher^b, Susan Eggly^c, and Louis A. Penner^c

^aDepartment of Psychology, Virginia Commonwealth University

^bDepartment of Psychology, Wayne State University

^cDepartment of Oncology, Wayne State University/Karmanos Cancer Institute

| SYSTEMATIC REVIEW |

Implicit Racial/Ethnic Bias Among Health Care Professionals and Its Influence on Health Care Outcomes: A Systematic Review

William J. Hall, PhD, Mimi V. Chapman, PhD, Kent M. Lee, MS, Yesenia M. Merino, MPH, Tainayah W. Thomas, MPH, B. Keith Payne, PhD, Eugenia Eng, DrPH, Steven H. Day, MCP, and Tamera Coyne-Beasley, MD

Implicit Association Test (IAT)

ONLINE LEARNING



The Implicit Association Test (IAT) measures attitudes and beliefs that people may be unwilling or unable to report. The IAT may be especially interesting if it shows that you have an implicit attitude that you did not know about.



STROKE CARE NETWORK

INCREASE DIVERSITY IN HEALTHCARE WORKFORCE



- Pipeline programs address shortage of neurologists
 - Supply of US neurologists estimated to ↑ by 11% between 2013 and 2025, but demand will ↑ by 16%. Develop partnerships with underserved communities
- Provide early and longitudinal exposure
- Provide mentorship
- Provide scholarship/funding for education
- Ultimately increase number of URM's in neurology



STROKE CARE NETWORK

PIPELINE PROGRAMS



Ima Ebong, MD
@ImaEbongMD

10 years ago I was a first year medical student who was passionate about increasing #diversityinmedicine at UKCOM. UKMED was the result. Today I am an Assistant Professor of Neurology, Director of Diversity and Inclusion and still an advocate for URM's. @UK_HealthCare



Ima Ebong, MD
@ImaEbongMD

Neuroscience is rewarding. Today @UKYneuroscience EDI Committee led a panel discussion for students of @FDHSacademies on careers in #Neurology and #neuroscience. Thanks @DrShawnHinds for organizing. Thanks @AANMember @NeuroEdAdvocate for the educational swag for the students!



Shawn Hinds, Ed.D.
@DrShawnHinds

I am thankful to have been joined by @ImaEbongMD, Dr. Dicks and Dr. Williams this week for a discussion about healthcare professions for interested SOC in the @FDHSacademies #FreshmanAcademy.



COMMUNITY OUTREACH



- Improve access to stroke care in marginalized communities
- Rural Appalachia Stroke Camp
- Eastern Kentucky Stroke Warrior Support Group
- UK, UofL, KHDSP awarded \$1.8M Paul Coverdell National Acute Stroke Program Grant by the CDC
 - Optimize stroke prevention and care among high risk
 - *Particular emphasis on patients from **Appalachia** and those from **racial and ethnic minority groups***



UK HealthCare, Partners Receive Prestigious CDC Grant to Improve Stroke Care, Outcomes in Kentucky

By Hillary Smith and Megan Housley June 24, 2021



Photo by Tim Webb.

Media Resources

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ENROLLMENT IN CLINICAL TRIALS



- African-Americans are underrepresented in clinical trials, yet are disproportionately affected by stroke
- Participation in trials improves the health of all
- Must acknowledge history of mistrust due to experimentation and medical racism
- Must enforce that clinical trials today are closely monitored for safety and ethical treatment of participants
- Highlight benefits of clinical trials
 - Possible treatment
 - Expert care
 - Access to novel treatments
 - Be honest about potential risks including placebo, side effects, etc

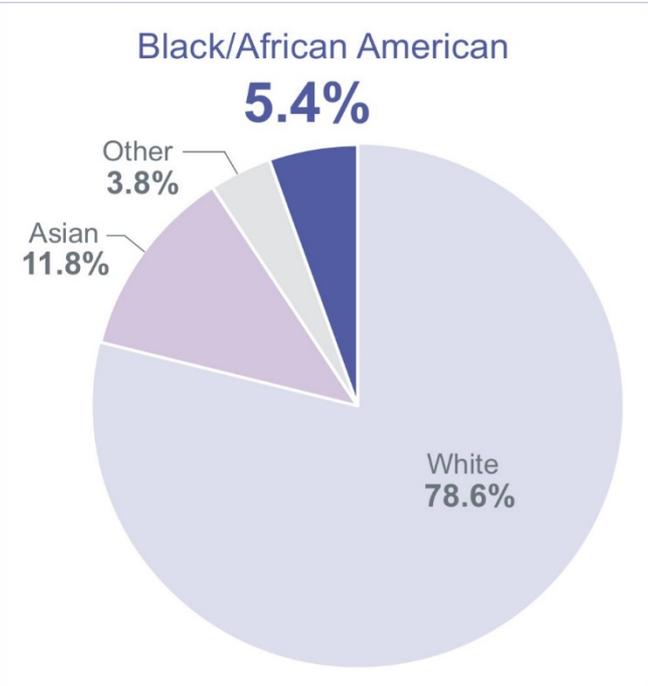


Tuskegee Syphilis Study.
The National Archives

ENROLLMENT IN CLINICAL TRIALS



Black/African American Clinical Trial Participation



Among All Clinical Trials

Specific Therapeutic Areas (2015-16)



- White participants represent about 78.6% of all clinical trial participants.
- Asian, Black/African American, and other groups represent 11.8%, 5.4%, and 3.8%, respectively.

When looking at specific therapeutic areas, Black/African Americans only represent 2.5% cardiovascular and 2.74% of oncology trial participants from 2015-2016 (*FDA Global Trial Participation 2015-16*) despite the prevalence of cardiovascular disease and aggressive cancers in this minority (*Coakley, Fadiran et al. 2012*).

STROKE CLINICAL TRIALS



Enrollment of women and minorities in NINDS trials



J.F. Burke, MD
D.L. Brown, MD
L.D. Lisabeth, PhD
B.N. Sanchez, PhD
L.B. Morgenstern, MD

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ABSTRACT

Objective: To determine policy-associated changes over time in 1) the enrollment of women and minorities in National Institute of Neurological Disorders and Stroke (NINDS)-funded clinical trials and 2) the trial publication reporting of race/ethnicity and gender.

Methods: All NINDS-funded phase III trials published between 1985 and 2008 were identified. Percent of African Americans, Hispanic Americans, and women enrolled in the trials was calculated for those trials with available data. Z tests were used to compare reporting and enrollment data from before (period 1) and after (period 2) 1995 when NIH enacted their policies regarding race, ethnicity, and gender. Percent of main trial publications reporting enrollment of African Americans, Hispanic Americans, and women was also calculated.

Results: Of the 56 trials identified, 100%, 48%, and 25% reported enrollment by gender, race, and ethnicity. Women constituted 42.1% of the trial population. Enrollment of women increased over time (36.9% period 1; 49.0% period 2, $p < 0.001$). African Americans constituted 19.8% of the enrollees in trials with available data and enrollment increased over time (11.6% period 1; 30.7% period 2, $p < 0.001$). Hispanic Americans constituted 5.8% of subjects in trials with available data and enrollment decreased over time (7.4% period 1; 5.0% period 2, $p < 0.001$).

Conclusions: Improvements in reporting of race/ethnicity in publications and enrollment of Hispanics in NINDS trials are needed. While African American representation is above population levels, Hispanic Americans are underrepresented in NINDS trials and representation is declining despite Hispanics' increasing representation in the US population. *Neurology* 2011;76:354-360

- African-Americans constituted 19.8% of NINDS trials
- Overrepresentation 2/2 single large trial that exclusively enrolled African Americans (JAMA 2003).
 - 14.5% African-American representation if trial excluded
- Overrepresentation 2/2 disproportionately higher incidence of neurologic disorders among African Americans
- Reporting bias explains some of the overrepresentation in this sample
 - trials reporting race information through direct author correspondence had lower African American enrollment (4.9%) than trials that reported race in trial publications (22.0%).



ENROLLMENT IN CLINICAL TRIALS

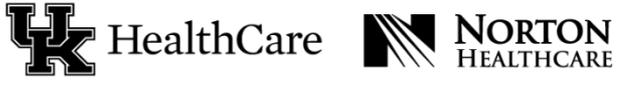
- Develop a budget to perform outreach
- Use standard, practiced and culturally competent recruitment strategies
- Partner with the community



OUR MISSION

The mission of **The Balm In Gilead** is to prevent diseases and improve the health status of people of African Descent by supporting faith institutions in areas of program design, implementation, and evaluation to strengthen their capacity to programmatically eliminate health disparities.

MISSION, VISION AND VALUES



STROKE CARE NETWORK



Heart Attack and Stroke Symptoms COVID-19 Volunteer SHOP

Published: October 9, 2018

Church-based health programs may help black adults lower blood pressure

By American Heart Association News

Please note: This article was published more than two years ago, so some information may be outdated. If you have questions about your health, always contact a health care professional.

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CULTURALLY COMPETENT LITERATURE





let's talk about
STROKE



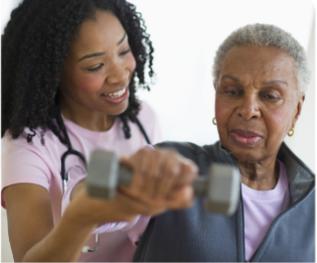
Prevention

let's talk about

Black Americans and Stroke

Stroke — the fifth leading cause of death in America — is a “brain attack” that occurs when blood that brings oxygen to your brain stops flowing and brain cells die.

On average, someone in the United States has a stroke every 40 seconds.



How does stroke impact black Americans?

Black Americans have a higher prevalence of stroke and highest death rate from stroke than any other racial group. Those who have diabetes and have an ischemic stroke, which is caused by a clot, are more likely to be black. Also, black stroke survivors are more likely to be disabled and have difficulties doing daily activities.

- Eating too much salt (sodium) - Research shows that African Americans may have a gene that greatly increases sensitivity to salt and its effects.
- Stress - African American adults face daily stressors that may increase risk for stroke.

What risk factors can I control?

Though some stroke risk factors such as age, gender, race, family history and previous stroke or transient ischemic attack (TIA) can't be controlled, up to 80% of strokes may be prevented by making lifestyle changes and managing your medical conditions.

Take these steps today to reduce your risk for stroke:

- Eat more fruits and vegetables.
- Reduce salt in your diet.
- Increase your physical activity.
- Quit smoking.
- Lose excess body weight.
- Manage stress.

Talk with your health care provider about your specific risk factors and how to best manage them.

(continued)

Why are black individuals at higher risk for stroke?

Not all of the reasons are clear why African Americans have an increased risk of stroke. But over two-thirds of black Americans have at least one risk factor for stroke:

- High blood pressure - Over half of black adults have high blood pressure. It develops earlier in black Americans and is often more severe.
- Overweight and obesity - Almost 70% of black men and over 80% of black women are overweight or obese.
- Diabetes - African Americans are more likely to have diabetes than non-Hispanic whites.
- High cholesterol - Nearly 30% of black Americans have high levels of “bad” LDL cholesterol.
- Sickle cell anemia - This common genetic disorder in African Americans is a risk factor for stroke.
- Smoking - Over 15% of black adults smoke, doubling their risk of stroke.



let's talk about
STROKE



Prevention

Black Americans and Stroke

Stroke warning signs

Signs and symptoms of stroke can be different depending on what part of your brain is impacted, no matter your race. F.A.S.T. can help you recognize several common stroke symptoms and remember what to do.

Stroke is an emergency! Call 911 immediately if you see one or more signs of a stroke. Fast treatment can result in better outcomes.

A study has shown that African Americans are more likely to think stroke symptoms are an emergency and to call 911.



SPOT A STROKE™

F.A.S.T.



FACE
Drooping



ARM
Weakness



SPEECH
Difficulty



TIME
to Call 911

HOW CAN I LEARN MORE?

- 1 Call 1-888-4-STROKE (1-888-478-7653) or visit stroke.org to learn more about stroke or find local support groups
- 2 Sign up for the *Stroke Connection*, a free magazine for stroke survivors and caregivers, at strokeconnection.org.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at stroke.org/supportnetwork.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your health care provider.

For example:

What medical conditions do I have that put me at higher risk for stroke?

How can I better manage my stress?

What is my risk for stroke?

MY QUESTIONS:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit stroke.org/letstalkaboutstroke to learn more.

SUMMARY OF CURRENT STRATEGIES

TO DECREASE RACIAL DISPARITIES IN
NEUROLOGY AND STROKE AT UK



ADDRESSING SHORTAGE OF URM PHYSICIANS AND NEUROLOGISTS



Ignite Your Interest in Healthcare

College of Health Sciences

KENTUCKY'S #1 HOSPITAL
BECAUSE OUR BEST
KEEPS GETTING BETTER

BEST REGIONAL HOSPITALS
USNews
BLUEGRASS REGION
RECOGNIZED BY TOP PRACTICE
2021-22

The University of Kentucky

VIRTUAL RESIDENCY FAIR AUG 21, 2021.
9AM-12PM EDT

Hosted by the University of Kentucky SNMA

For diversifying medicine

UK College of Medicine

Interact with:

Adult Neurology • Anesthesiology • Child Neurology • Combined Child & Adolescent Psychiatry • Diagnostic Radiology • EM • Family Medicine • General Surgery (Lexington & Bowling Green) • Hospice & Palliative Medicine • IM • MedPeds • OBGYN • Ophthalmology • Orthopedic Surgery • Otolaryngology • PM&R • Pathology & Laboratory Medicine • Peds • Psychiatry • Combined Internal Medicine-Psychiatry • Radiation Oncology • Rural Family Medicine (St. Claire)

REGISTER TODAY
via QR code or URL below
(case sensitive)

<https://l.ead.me/UKSNMA21>



STROKE CARE NETWORK



COMMUNITY OUTREACH



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- Eastern Kentucky Stroke Warrior Support Group
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Photo by Tim Webb.

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INCORPORATE “IDEAS” IN TRAINEE EDUCATION

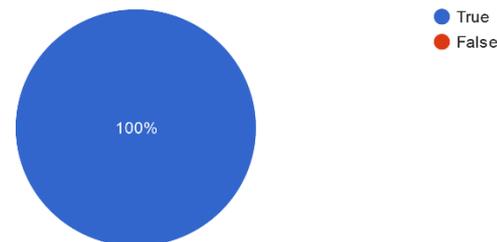


- Department of Neurology
Antiracism and Social Justice Curriculum
- Monthly hour-long didactic seminar
- Resident and faculty member facilitate the discussion
 - prepare a presentation on an article addressing article discussing inclusion, diversity, equity, antiracism or social justice (IDEAS) in medicine/neurology
- This is followed by open discussion among all and reflective time
- Use knowledge to make positive changes in our practice.

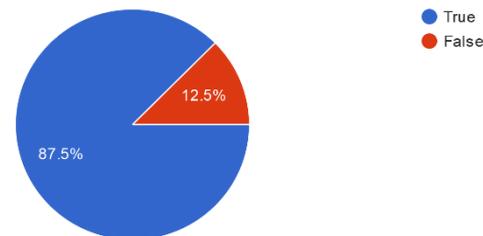
Barriers and Facilitators of Stroke Recovery: Perspectives From African Americans With Stroke, Caregivers and Healthcare Professionals

Gayenell S. Magwood, PhD, RN, FAHA, FAAN,* Charles Ellis, PhD, CCC-SLP,†
Michelle Nichols, PhD, RN,* Suzanne Perea Burns, PhD, OTR/L,‡§
Carolyn Jenkins, DrPH, RN, RD, LD, FAAN,* Michelle Woodbury, PhD, OTR/L,|| and
Robert Adams, MS, MD¶

African-Americans are more likely to have stroke at a younger age.



African-Americans are more likely to experience more severe stroke.



UK NEUROLOGY - CURRENT STROKE TRIALS

- NeuroBank
- ARCADIA
- ARCADIA-CSI
- ASPIRE
- CREST-2
- Lumosa LT3001-201
- MOST
- SleepSMART
- Statins Use in Intracerebral Hemorrhage Patients (SATURN)
- <https://neurology.med.uky.edu/neurology-current-clinical-studies>



THANK YOU



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

Martin Luther King, Jr
Convention of the Medical
Committee for Human
Rights, March 1966

