Underprescribing of Oral Anticoagulation (OAC) and Associated Outcomes for Patients with Atrial Fibrillation (AF): A Call to Action

Tuesday | February 28, 2023 | 12:00pm EST

Presenters:

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Presenters

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Disclosures & Notification of Support

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The speakers have the following relevant financial relationships with commercial interests:

Julia Mulheman
None

Naomi Yates
None

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UptoDate

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Inclusion, Diversity, Equity, and Allyship (IDEA) Initiative

Anticoagulation FORUM
IDEA Initiative

Goals

- Engage in active anti-racist efforts that will create meaningful change
- Be intentional about diversity in AC Forum leadership, membership, and programming
- Expand access to opportunities for Black and other clinicians of color in anticoagulation and related fields
- Increase awareness of structural racism and its impacts on health inequities/disparities

By working together with partners and allies, we can expand our reach and increase our impact

Learn more about IDEA at https://acforum.org/web/education-idea.php

Email info@acforum.org if you'd like to join the committee!

Cases

Case Scenario 1

BL: a 67 yo white male CEO of a marketing company

- PMH: hypertension and diabetes
- Presents to PCP office for yearly wellness physical and found to have HR 120 bpm with irregular rhythm
- Medications: lisinopril-HCTZ 10/12.5 mg daily, atenolol 50 mg daily, and metformin 500 mg BID
- Fatigued and short of breath recently
- Other physical examination findings include:

  lungs normal; abdomen no tenderness or masses; neck negative for thyromegaly; vision normal; neurologic normal reflexes and coordination
- An electrocardiogram is performed and shows atrial fibrillation (AF) with rapid ventricular response
- $CHA_2DS_2VASc=3$

Case Scenario 2

JJ: a 78 yo black male taxi driver

- PMH: hypertension and mildly overweight
- Admitted to the hospital with pneumonia and upon admission is also found to be in AF
- Medications: lisinopril 10mg daily
- Consistently eating in his car and therefore picks up quick "unhealthy" foods to eat
- $CHA_2DS_2VASc=3$

Cases

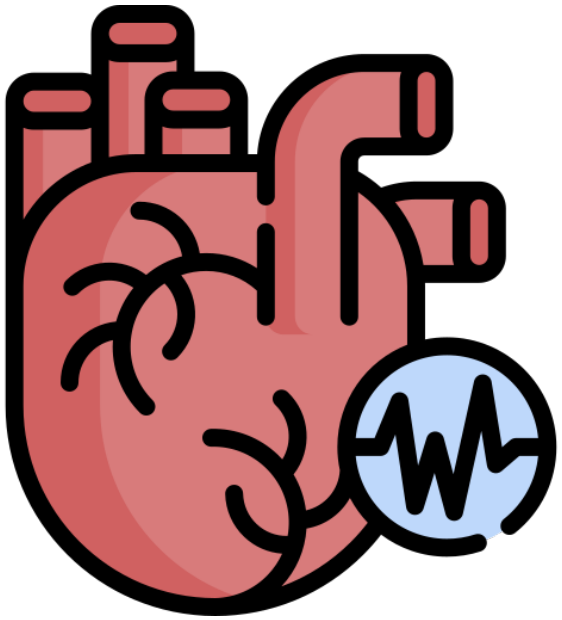
Case Scenario 1

- There is shared decision-making and BL is placed on **apixaban 5mg BID**
- BL is given a copay card
- BL goes to pharmacy, picks up and starts medication, follows up in 6 months

Case Scenario 2

- JJ is discharged on day 5 after recovering from pneumonia on the same medication he was previously taking, along with **warfarin**– a prescription was sent to his pharmacy
- JJ was told to take 5mg warfarin daily and he would receive a call from a "monitoring clinic" in the next 1-2 days
- JJ came back to ER 10 days later with severe abdominal pain and black stool

Prevalence of AF



- The most common arrhythmia, with **up to 60 million adults impacted worldwide**
- **Increases cardiovascular morbidity**, including ischemic stroke
- **Increases mortality risk**, resulting in about 158,000 deaths each year in the United States alone
- Deaths related to AF appear to be on the rise, particularly among younger adults

JAMA Cardiol 2022;7(12):1207-1217 About Multiple Cause of Death, 1999–2019. CDC WONDER Online Database website. Atlanta, GA: Centers for Disease Control and Prevention; 2019. Accessed February 1, 2021. J Am Heart Assoc 2021 Aug 3;10(15):e020163

Economic Burden of AF

Total costs of AF care in the US	What costs?	Cost of undiagnosed AF	Cost of ethnoracial disparities
~$6.65 billion per year (2005 dollars)	Direct and indirect costs associated with hospitalization (~75%)	$3.1 billion	$1.24 trillion

Strategies to identify and treat undiagnosed AF could lead to sizable reductions in stroke sequelae and associated costs

Value Health 2006;9(5):348-356
Am J Cardiol. 2015 Sep 1;116(5):733-9
Curr Cardiol Rev 2015;11:238-245

Racial and Ethnic Differences in AF

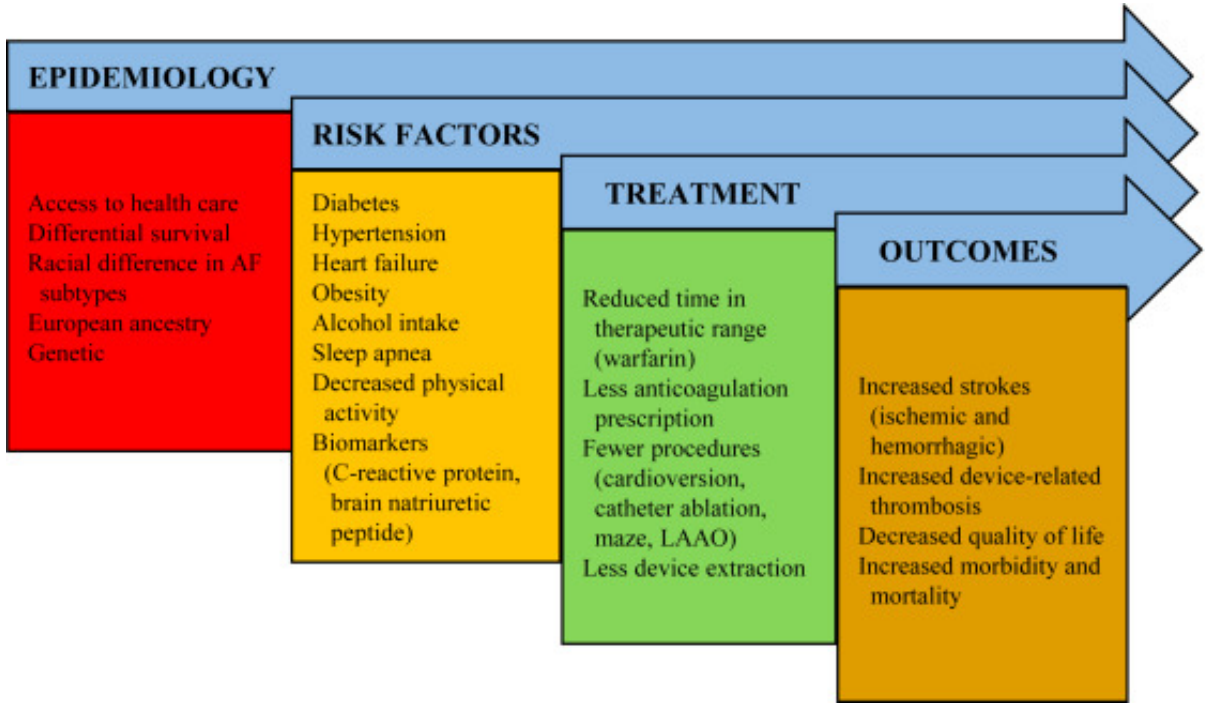
- **Limited AF data** in Black, American Indian or Alaska Native, Native Hawaiian, other Pacific Islander populations

- **Why?**
  - Differences in study design
  - Access to care
  - AF detection methods

Heart Rhythm 2022;19:1577-1593
Ann Epidemiol 2015;25:71-76
J Natl Med Assoc 2008;100:237-245

Atrial Fibrillation Racial Paradox

- Black individuals have **lower** incidence and prevalence of AF than White individuals
- BUT… traditional AF risk factors are more frequently found in Black individuals



Heart Rhythm 2022;19:1577-1593

Why the Racial Paradox?

Potential Reasons

- Ascertainment bias (related to diminished access to health care)
- Survival bias (longer life expectancy in the White population may confer an increased risk of AF)
- Paroxysmal nature of AF (and reduced sensitivity of electrocardiogram screening) may result in underdetection

MESA Study

- In 14 years follow-up, AF was clinically diagnosed more often in White individuals (11.3%) than in those who were African American (6.6%)
- Screened with a 144-day continuous electrocardiogram monitor
  - Proportion of monitor-detected AF did not differ significantly by race or ethnicity

Circ Arrhythm Electrophysiol 2020;13
Heart Rhythm 2022;19:1577-1593

Guidelines: OAC for AF

Oral anticoagulation (OAC) is the optimal choice of antithrombotic therapy for patients with AF with ≥1 non-sex CHA_2DS_2-VASc stroke risk factor(s)

In patients with AF who are eligible for OAC, DOACs are recommended over VKAs [Strong recommendation, moderate quality evidence]

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NOACs are recommended over warfarin in NOAC-eligible patients with AF (Class I recommendation, Level A evidence)

For stroke prevention in AF patients who are eligible for OAC, NOACs are recommended in preference to VKAs (Class I recommendation, Level A evidence)

ESC European Society of Cardiology

CHEST 2018;154(5):1121-1201
Circulation 2019; 140(2):e125-151
Eur Heart J 2021; 42(5):373-498

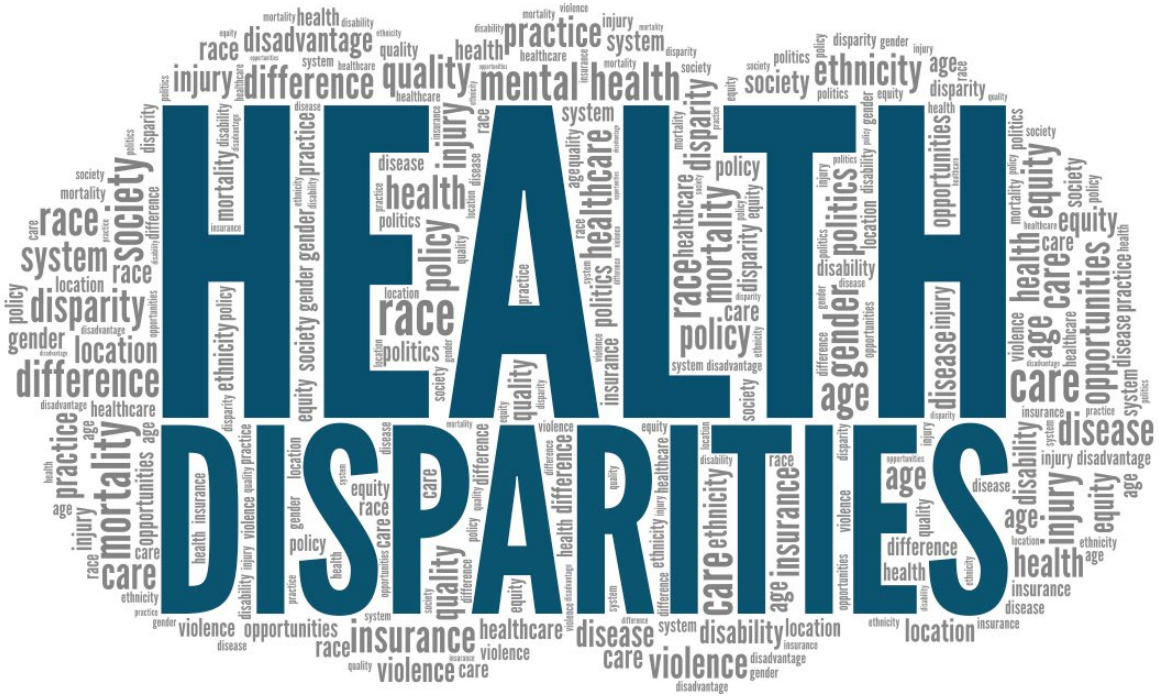
Racial Disparities in OAC for AF

When compared with White individuals, Black individuals…

Warfarin Prescribing	DOAC Prescribing	OAC Adherence	Quality of Warfarin Therapy
Are less likely to be initiated on warfarin	Are less likely to receive a DOAC prescription	Are less likely to fill a prescription for warfarin upon hospital discharge	Have lower time in therapeutic range

Stroke 2010;41:581-587
J Natl Med Assoc 2010;102:906-913
Am Heart J 2016;174:29-36
Heart Rhythm 2022;19:1577-1593

Why Disparities in OAC for AF?

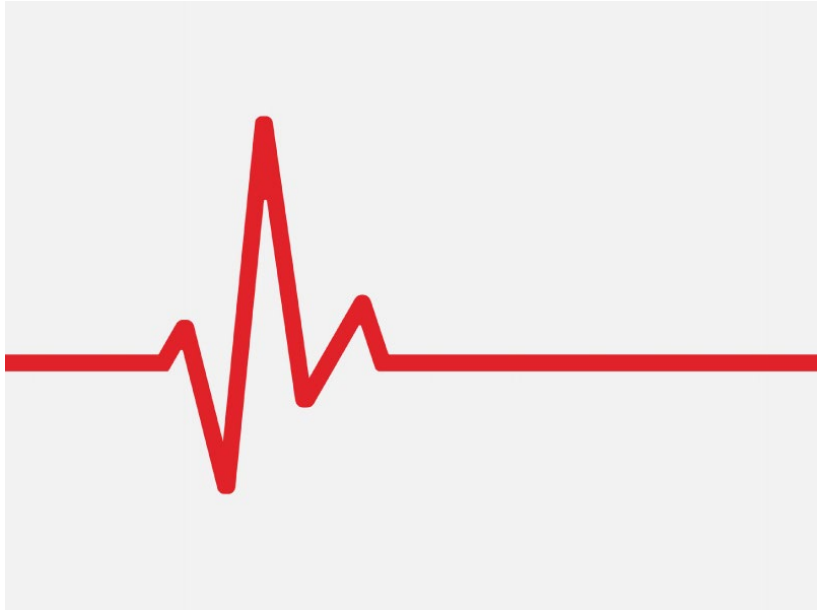


- Socioeconomic status
- Lack of access to health care
- Financial limitations
- Inadequate follow-up by health care providers

Stroke 2010;41:581-587
J Natl Med Assoc 2010;102:906-913
Am Heart J 2016;174:29-36
Heart Rhythm 2022;19:1577-1593

Disparities In AF Interventions

- Non-White individuals
  - Worse AF symptom scores
  - Significantly underrepresented in clinical trials of catheter ablation and LAA occlusion
  - Lower utilization of procedural rhythm control strategies (cardioversion, ablation, LAAO)
  - Lower utilization of pharmacological interventions
  - Less frequently referred to electrophysiology subspecialists



Heart Rhythm 2018 Sep;15(9):1337-1345

Disparities In Research

Representation in Clinical Trials

- Approximately 14% of the United States population is Black
- Black patients comprised less than 2% of the study populations in AF clinical trials comparing DOACs to warfarin

National Institutes of Health (NIH) Revitalization Act of 1993

- Directed the NIH to establish guidelines for inclusion of women and racial and ethnic minorities in clinical research
- Significant inequities in racial and ethnic diversity remain for NIH-funded cardiovascular studies

https://www.census.gov/quickfacts/fact/table/US/PST045221. Accessed February 13, 2023.
Heart Rhythm 2018 Sep;15(9):1337-1345
Heart Rhythm 2022;19:1577-1593

Disparities In Research

Contributing Factors

- Current and historical research atrocities against racial and ethnic minorities
- Lack of community and patient engagement
- System barriers
- Distrust in the medical system
  - Centuries of discrimination and segregation
  - Forced unconsented medical research
  - Denial of access to care

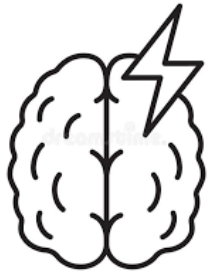
Cancer 2014;120(7):1091-1096
Am J Public Health 2011;101:2217-2222

2x

Black individuals with AF have a **twofold increased risk of ischemic stroke** compared to White individuals

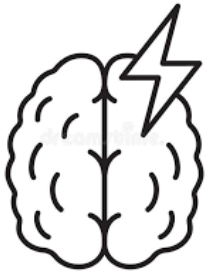
Stroke 2010;41:581-587
J Natl Med Assoc 2010;102:906-913
Am Heart J 2016;174:29-36
Heart Rhythm 2022;19:1577-1593

Disparities In Outcomes

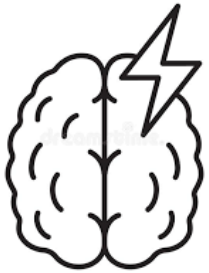


1-year cumulative **stroke** incidence

- Overall 1.9% (95% CI, 1.7-2.1)
- Higher in Black patients (3.8%; 95% CI, 2.4-5.6)
- Higher in Hispanic patients (3.3%; 95% CI, 1.5-2.0)
- Lower in White patients (1.7%; 95% CI, 1.5-2.0)



Higher incidence of stroke in Black patients discharged while taking DOAC



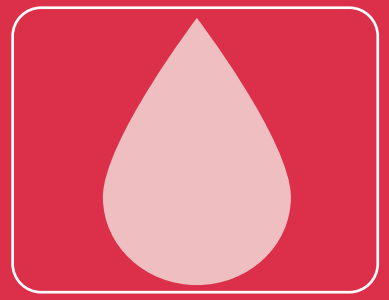
Higher incidence of stroke in Hispanic patients discharged without any OAC

JAMA Cardiol 2022;7(12):1207-1217

American Heart Association | American Stroke Association

GET WITH THE GUIDELINES AFIB

Disparities In Outcomes



1-year cumulative incidence of major bleeding was 5.5% (95% CI, 5.2-5.9)

Incidence higher in Black patients (11.3%; 95% CI, 8.9-14.1)

Incidence higher in Hispanic patients (6.7%; 95% CI, 4.8-9.0)

Incidence lower in White patients (5.3%; 95% CI, 4.9-5.6)

1-year cumulative incidence of mortality was 16% (95% CI, 15.4-16.6)

Mortality risk was highest in Black patients (19.4%; 95% CI, 16.2-22.5)

Followed by Hispanic patients (18.3%; 95% CI, 15.3-21.3)

Then Asian patients (16.6%; 95%CI, 11.1-22.2)

And White patients (15.8%; 95% CI 15.2-16.4)

Black patients discharged without any OAC had significantly higher rates of mortality than White patients (aHR, 1.99; 95% CI 1.54-2.57)

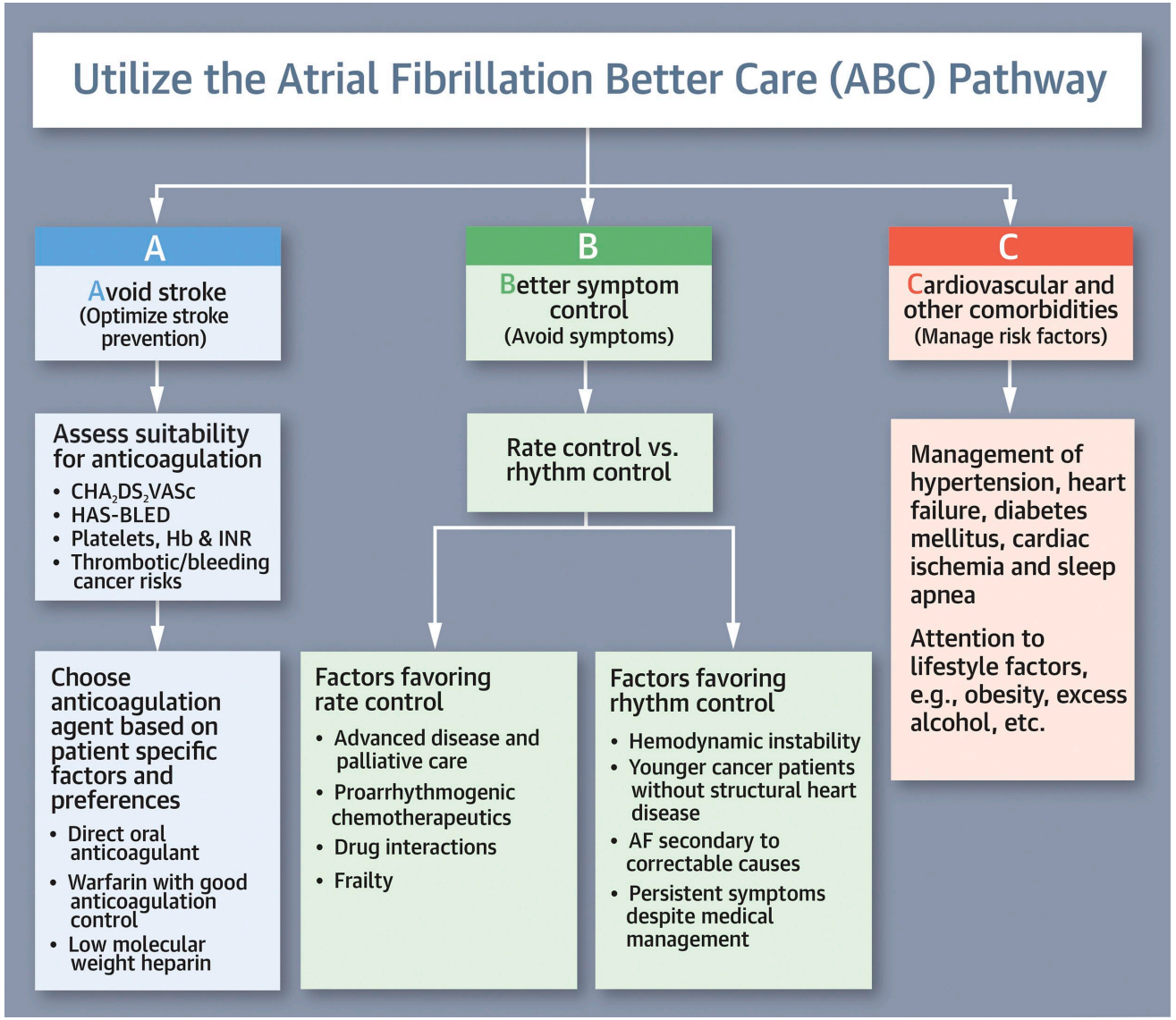
JAMA Cardiol 2022;7(12):1207-1217

Call To Action

- Population-based efforts
  - Policy changes
  - Private-public partnerships
  - Commit to allocate resources to address the downstream impact of SDOH on health outcomes
- Recognize and provide training around implicit bias
- Provide cultural humility training
- Understand structural racism and how it can lead to health disparities
- Diversify the healthcare workforce
- Advocate and collaborate

Heart Rhythm 2022;19:1577-1593

Resources



J Am Coll Cardiol CardioOnc. 2021 Mar, 3 (1) 140–144

Resources

Rapid Resource

Anticoagulation FORUM | ANTICOAGULATION Centers of Excellence

Social Determinants of Health & Patient Care

excellence.acforum.org

BACKGROUND:

Health Disparities, Cultural Competency, and Structural Racism

Health Disparities are defined as systematic differences in the health status of population groups that result from social, economic, and environmental disadvantages.

Cultural Competency is the ability of health professionals to provide care to patients with diverse values, beliefs, and behaviors, including tailoring of health care delivery to meet the patients' social, cultural, and linguistic needs.[5]

Structural Racism is a system in which public policies, institutional practices, cultural representations, and other norms work to perpetuate racial group inequity.[6] This system negatively impacts health outcomes by serving as the foundation to the quality of housing, education, income, and wealth accumulation.

Racial Disparities in Cardiovascular Disease

There is strong evidence that racial disparities in health care exist in the United States, particularly in the treatment of cardiovascular disease.

- Asian and Hispanic patients comprised less than 20% of patients in the atrial fibrillation clinical trials comparing DOACs to warfarin, and Black patients comprised less than 2% of the study populations in these trials.[1]
- People of color have more difficulty gaining access to healthcare than people who are white.[2]
- Studies show that most health care providers appear to have implicit bias with positive attitudes toward patients who are white and negative attitudes toward people of color. This implicit bias has been shown to correlate with poorer patient-provider interactions and health care outcomes.[2,3,4]
- People of color tend to have worse AF symptom scores, a lower utilization of both pharmacologic and procedural rhythm control strategies, and are less frequently referred to electrophysiology subspecialists.[1]

Understanding Social Determinants of Health

Social Determinants of Health are conditions in the environments where people are born, live, learn, work, play, worship, and age that affect health functioning and quality of life outcomes and risks.

HEALTHCARE
Access to healthcare, the quality of care provided, provider linguistic & cultural competency, and a patient's understanding of health services and their own health

SOCIALIZATION & COMMUNITY
Community engagement, support systems, and social integration

ECONOMIC STABILITY
Financial resources and limitations, including income, cost of living, and lack of generational wealth

NEIGHBORHOOD & PHYSICAL ENVIRONMENT
Housing quality, access to transportation, air and water quality, crime/safety, and recreational activities

EDUCATION
Language and literacy, early childhood education, vocational training, and educational level

FOOD & NUTRITION
Food insecurity and access to healthy options

References: 1. Ugowe FE, Jackson LR, Thomas KL. Heart Rhythm. 2016 Sep;15(9):1337-1345. PMID: 29803022. 2. Hall WJ, Chapman MV, Lee KM, et al. Am J Public Health. 2015 Dec;105(12):e60-76. PMID: 26469668 3. FitzGerald C, Hurst S. BMC Med Ethics. 2017 Mar 1;18(1):19. PMID: 28249596. 4. Maina IW, Belton TD, Ginzberg S, Singh A, Johnson TJ. Soc Sci Med. 2018 Feb;199:219-229. PMID: 28532892. 5. Health Research & Educational Trust. (2013, June). Becoming a culturally competent health care organization. Chicago, IL: Illinois. 6. Glossary for Understanding the Dismantling Structural Racism/Promoting Racial Equity Analysis. The Aspen Institute, Community Roundtable for Change.

Faculty: Naomi Yates, PharmD, BCACP | Stacy Ellsworth, RN, MSN, CCRC | Julia Mulheman, PharmD | Terri Schnurr, RN, CCRC | Sara Vazquez, PharmD, BCPS, CACP

This content was developed independently by the Anticoagulation Forum. Support for this project provided by BMS-Pfizer Alliance

Last updated 12/2021

Rapid Resource

Social Determinants of Health & Patient Care

These considerations aim to reduce health disparities by providing the best care to patients of all identities and backgrounds.

Project Faculty:

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Download the Resource

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Case Follow Up

Case Scenario 1

- **BL** seen at 6 months for follow-up visit
- No issues with obtaining medication or keeping appointment

Case Scenario 2

- **JJ** admitted to hospital due to bleeding as a complication from the warfarin
- INR was >8 on admission
- JJ was not aware how often he needed to follow up while taking warfarin so he did not call the "monitoring" clinic right back

Questions?

Thank you to our presenters!

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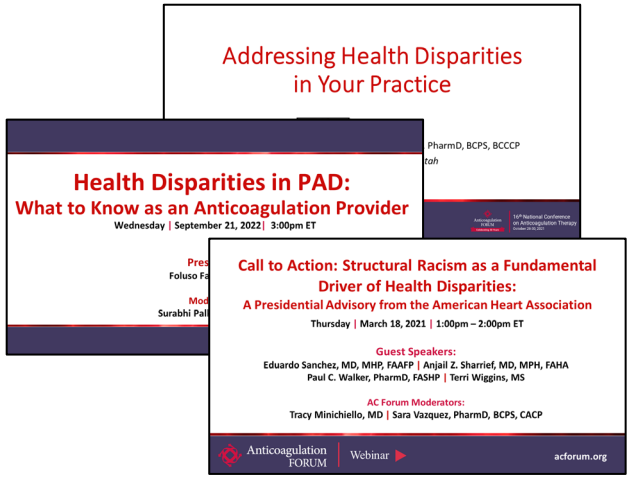

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