“Creating more diversity in clinical trial participants: why and how?”

Clyde W. Yancy, MD, MSc
Professor of Medicine
Professor, Medical Social Science
Chief, Cardiology
Associate Director, Bluhm CV Institute
Vice-Dean, Diversity & Inclusion
Northwestern University, FSM
Deputy Editor, JAMA Cardiology

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Who Participates in Clinical Trials?
Geography

Where are Participants From?

The country contributing the most clinical trial participants was the United States. Compared to the population of the entire world (7.8 Billion), the US (35 Billion) makes up a little more than 4% of the world population.

Trial Participants by US vs Non-US
Total Participants = 131,749

- US: 31%
- Non-US: 69%
Participation of Black/AAs in Clinical Trials for Oncology, Cardiology, and Psychiatry

More insight into the participation rates of Black/AAs in clinical trials for Oncology, Cardiology, and Psychiatry are provided in the figures below.

**Oncology**
- Total Participants = 7,691
- Black or African American: 2.50% (1,413)
- Some Other Race: 97.50% (6,278)

**Cardiovascular Disease**
- Total Participants = 92,329
- Black or African American: 2.74% (2,531)
- Some Other Race: 97.26% (89,798)

**Psychiatry**
- Total Participants = 5,810
- Black or African American: 24.18% (1,405)
- Some Other Race: 75.82% (4,405)

Global Participation in Clinical Trials Report
Heat Map - Clinical Trial participants - Black
Heat Map - Clinical Trial Participants: All

Where do Black/AAs participate in Clinical Trials compared to Non-Black/AA Races? (Based on NCTs from 2015-16)

This map shows where Black/AAs participate in clinical trials compared to Non-Black/AA races. Roughly comparing the sizes with Black/AA participants and sites with non-Black/AA participants, it seems to suggest clinical trials in the US are being conducted where Black/AA live.

2017 Black/African American Population
- 500k
- 250k
- 100k
- 50k
- Under 50k

Total of Participants:
- Black/AA
- Some Other Race

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<tr>
<th>Ethnicity</th>
<th>Participants</th>
<th>Percentage</th>
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<tr>
<td>Black/AA</td>
<td>5,013</td>
<td>14.48%</td>
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<tr>
<td>Some Other Race</td>
<td>34,922</td>
<td>85.52%</td>
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Heat Map - Clinical Trial Participants: All
Why is diversity in clinical trial recruitment important?

Cardiovascular Disease Disparities
# Perspective

## Racial Disproportionality in Covid Clinical Trials

Daniel B. Chastain, Pharm.D., Sharmon P. Osse, Pharm.D., Andrés F. Henao-Martinez, M.D., Carlos Franco-Paredes, M.D., M.P.H., Joecana S. Chastain, Pharm.D., and Henry N. Young, Ph.D.

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**August 27, 2020**

**Viewpoint**

**COVID-19 and African Americans**

Clyde W. Yancy, MD, MSc

[Author Affiliations](#) | [Article Information](#)
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Racial Disparities in the Utilization and Outcomes of TAVR

TVT Registry Report

Mohamad Alkhouli, MD, a,b,*, David R. Holmes, Jr, MD, a,*, John D. Carroll, MD, a, Zhuokai Li, a Taku Inohara, MD, PhD, a Andrzeic S. Kosinski, c Molly Szerlip, MD, a Vinod H. Thourani, MD, f Michael J. Mack, MD, g Srekeanth Vemulapalli, MD a,h
Racial Outcomes of TAVR: TVT Registry

Mohamad Alkhoul, Andrzej S. Kosinski, Sreekanth Venkatachalam

CENTRAL ILLUSTRATION: Race-Stratified Differences in the Use and Outcomes of TAVR in the United States

Utilization of TAVR Among Racial Minorities

- Total Number of TAVR Patients
  - 1,648
  - 2,839
  - 4,445
  - 6,344
  - 8,152
  - 9,737
  - 11,095
  - 13,192
  - 16,731


- % of Blacks (p = 0.678)
- % of Hispanics (p = 0.017)
- % of Others (p = 0.997)

Baseline Characteristics Non-White vs. White
- Younger Age
- More Females
- More Medicare Insurance
- Longer 5-Meter Walk Distance
- Higher STS Score
- More Aortic Insufficiency
- More Non-Elective TAVR

In-Hospital Outcomes Non-White vs. White
- Death
- Myocardial Infarction
- Stroke
- Major Bleed
- Pacemaker
- Vascular Complications

One Year Outcomes Non-White vs. White
- Death
- Myocardial Infarction
- Stroke
- Major Bleed
- Valve Interventions
- HF Hospitalizations

Racial Outcomes
TVT Registry

Mohamad Alkhouri, Andrzej S. Kosiak, Sreekanth Venkatachalam

CENTRAL ILLUSTRATION: Race-Stratified Differences in the Use and Outcomes of TAVR in the United States

Mohamad Alkhoul
Andrzej S. Koss
Sreepanth Vem

Can we change the way we evolve evidence?

Targeting Diversity in Clinical Trials
A relevant database -

Overcoming Lack of Diversity in Cardiovascular Clinical Trials
A New Challenge and Strategies for Success

Rebecca F. Ortega, Clyde W. Yancy, Roxana Mehran, Wayne Batchelor


"While it may be argued that patient heterogeneity is a nuanced, rather than critical, component of drug or device efficacy, it is unquestionable that the current standard of care emanates from randomized controlled trials that have failed to fully represent elderly patients, minorities, and women.¹ The lack of adequate data for these relevant subgroups challenges the integrity of our evidence-based care algorithms and questions the replication of favorable safety and outcomes across all populations. These persistent missteps in our evidence-based generation could permit less than ideal health outcomes as a function of sex, age, race, and ethnicity."
The Path Forward:

- Consideration of economic incentives (or penalties) by the FDA (or payers) that would enable greater inclusion of diverse patients in clinical trials.
- Commitment by industry and the clinical science community to revisit the design of trials, selection of investigators and sites, and geographic balance of US and non-US subjects.
- Engagement with peer investigators outside of the United States to target more race/ethnicity diversity and gender balance in clinical trial recruitment.
- Exploration of enhanced cohort recruitment in phase IV or postapproval studies to address important safety and implementation questions.

The Path Forward:

- Recruitment and training of more diverse coordinator and investigator research teams.
- Incorporation of novel information technology strategies, including use of electronic health data, social media, gamification, and other digital health technologies as unique steps to expand the pool of potential research subjects.
- Revision of the informed consent process, assuring that language matches literacy levels and that consent is culturally sensitive.
- Education at the societal level to advance the overall “research IQ” of the populace, thus overcoming a legacy of mistrust of the research enterprise and reducing barriers to participation in clinical trials.

Are there concordant points of view?
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Proceedings from FDA-hosted launch 9/22/2020

Brigham & Womens Faculty Director: Barbara E. Bierer, MD
FDA Guidance to Enhance Diversity in Clinical Trials, November 9, 2020

- **Inclusive Trial Practices**
  - Developing protocols intentionally to support inclusion
  - Expanding recruitment criteria from phase II to phase III trials
  - Recruitment of subjects who represent the target *marketing* population
  - Explicit inclusion of women to support important sex/gender analyses
  - Inclusion of racial minorities with concomitant detailed sociodemographic data

- **Trial Design and Methodological Approaches**
  - Include genomics
  - Consider adaptive trial design to accommodate alterations in clinical trial population based on real-time enrollment data
FDA Guidance to Enhance Diversity in Clinical Trials, November 9, 2020

- Broadening Eligibility Criteria in Trials
  - Enrichment strategies’ emphasizing recruitment of targeted populations
- Making trial participation less burdensome
  - Support for transportation, parking other fees associated with logistics
  - Access for those with disabilities
  - Use of digital health tools
- Adopt enrollment and retention practices that enhance inclusiveness
  - Start with community engagement and public outreach; focus groups and community-based participatory research (engaging community members and leaders in the design and execution of the research)
How do we create accountability?
Diversity in Clinical Trial Leadership
May, 2021

- First, we need to be more engaged and intentional in choosing site-based principal investigators with an eye toward diversity.
- Second, as journal editors we need to take an active role in inquiring and considering why a design or results paper of a large-scale clinical trial does not have significant representation of female or Black physicians in positions of leadership.
- The authors must explain the diversity of the study’s leadership (PIs, committees, core labs, etc.) and author list in the Methodology section of the manuscript. If there is a lack of diversity, an explanation of this must be stated in the Limitations section of the manuscript.
SUMMARY

- Diversity in Clinical Trials is important as a meaningful action addressing ongoing cardiovascular health disparities

- Advancing Diversity in Clinical Trials involves:
  - Policy
  - Outreach
  - A priori intentions to support inclusion with trial design/protocol
  - Lessening barriers and improving access
  - *Diversifying Clinical Trial Leadership*
  - Accountability
    - FDA
    - Sponsors
    - Journal Editors