

NYC Coalition to End Racism in Clinical Algorithms Meeting 10



Michelle E. Morse, MD, MPH

Chief Medical Officer

Deputy Commissioner, Center for Health Equity and Community Wellness

New York City Department of Health and Mental Hygiene

Agenda

01 Welcome

**02 ATS Statement on the Use of Race and Ethnicity in
Pulmonary Function Test and Interpretation**

03 RWJF Evaluation Overview

04 Five-minute Break

05 Breakout Groups by Algorithm

06 Closing + Next Steps

ATS Statement on the Use of Race and Ethnicity in Pulmonary Function Test and Interpretation

Stephanie Lovinsky-Desir, MD, MS

Associate Professor of Pediatrics in Environmental Health Sciences

Chief, Pediatric Pulmonary Division Columbia University Irving Medical School

ATS Statement on the Use of Race and Ethnicity in Pulmonary Function Test Interpretation

Stephanie Lovinsky-Desir, MD, MS

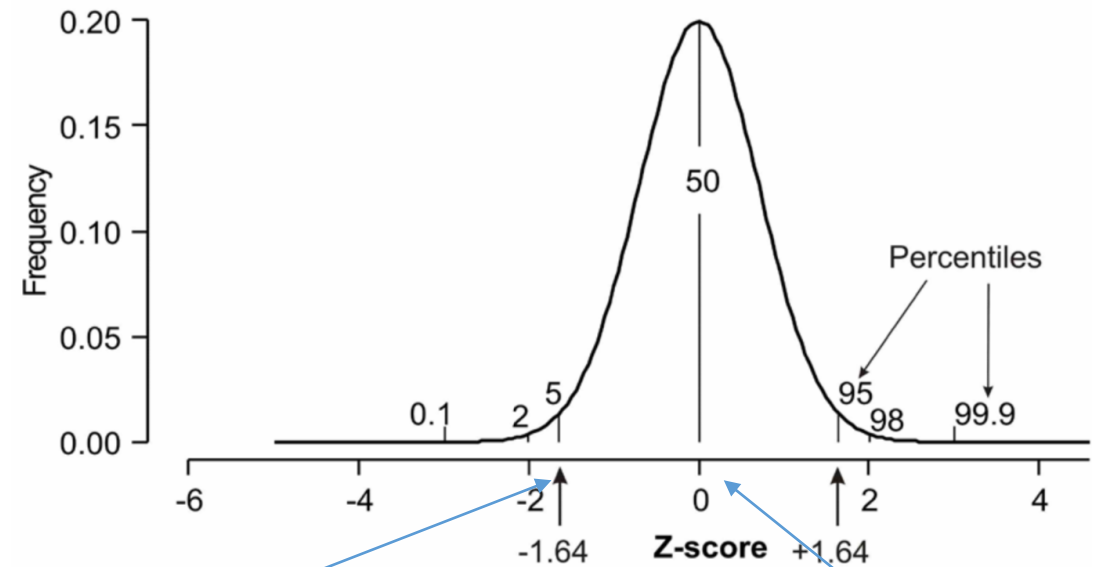
Associate Professor of Pediatrics in
Environmental Health Sciences
Chief, Pediatric Pulmonary Division
Columbia University Irving Medical School



47-year-old female
5'5" (165.1 cm)
Measured FEV₁ 2.0 L

GLI African-American Predicted FEV₁ 2.53 L

- **79% of predicted, z -1.46**
- **2.0 > lower limit of 1.93 L**



Lower limit of normal, 5th percentile

Predicted value



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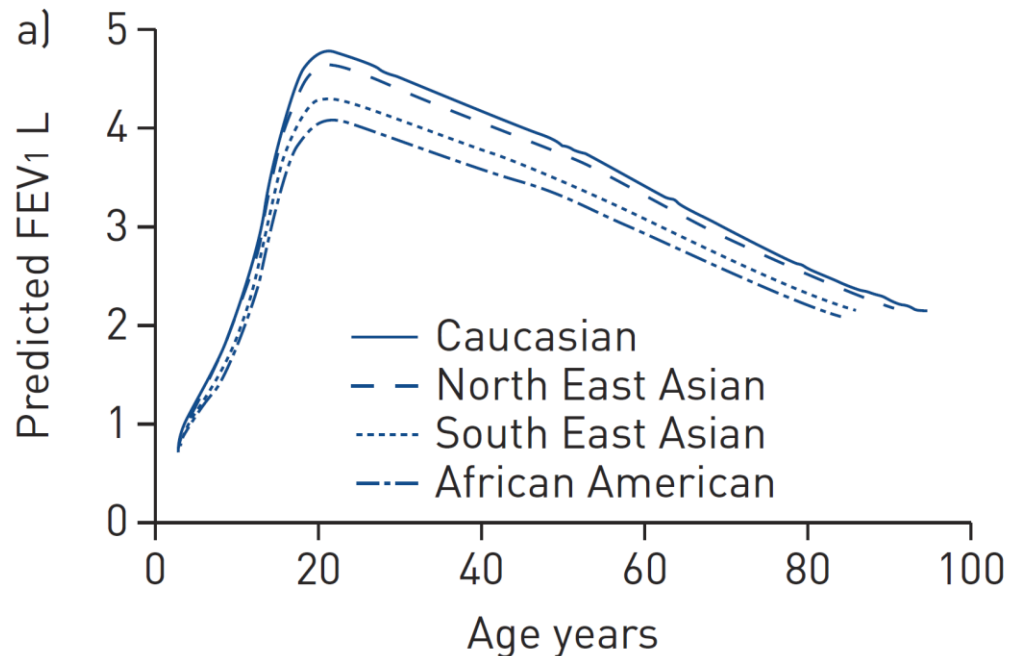
Conclude: Normal

GLI White Predicted FEV₁ 2.94 L

- 68% of predicted, z -2.43
- 2.0 < lower limit of 2.31 L

Conclude: Abnormal

Global Lung Function Initiative (GLI)



74,187 health, non-smokers

Ages 3-95 years

3,545 Black (African American)

4,992 North East Asian

8,255 South East Asian

57,395 White (Caucasian)

SKIN DEEP:
THE SCIENCE
OF RACE

DAWN OF
THE WHITE
MINORITY

US AND THEM:
WHY WE
DIVIDE

DRIVING
WHILE
BLACK

SPECIAL ISSUE

NATIONAL
GEOGRAPHIC

Black and White

These twin sisters make us rethink
everything we know about race

APRIL 2018

WHAT'S YOUR STORY? #IDefineMe

Race is a
Social Construct



The Use of Race and Ethnicity in PFT

Perpetuates false ideas that race distinguishes people on the basis of innate and immutable features

Masks the effects of social and environmental factors that contribute to differences – lack of attention to modifiable risk factors

Assumes that the lower lung function found on average in Black populations is not clinically meaningful





Pulmonary Function
Testing Committee

Health Equity and
Diversity Committee

History of Racism
and PFTs

Environmental
Epidemiologists

Genetics of
Pulmonary Disease

Lung Function in
Global Populations

COPD and ILD

Adult and Pediatric

Occupational
Medicine

Persons of Color
(7 Black)

DEI Champions

5 International
Members

Many Levels of
Training

Workshop Goals

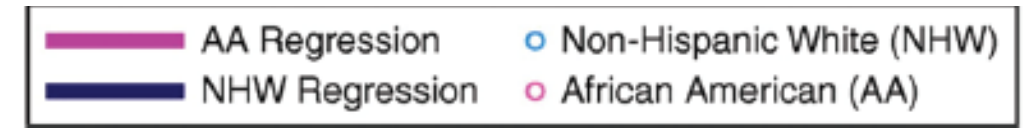
1. Review the use of race and ethnicity in interpretation of PFTs
2. Evaluate clinical implications
3. Provide guidance so clinicians, investigators and patients can make informed decision

Lack of consensus,
concern for potential harm

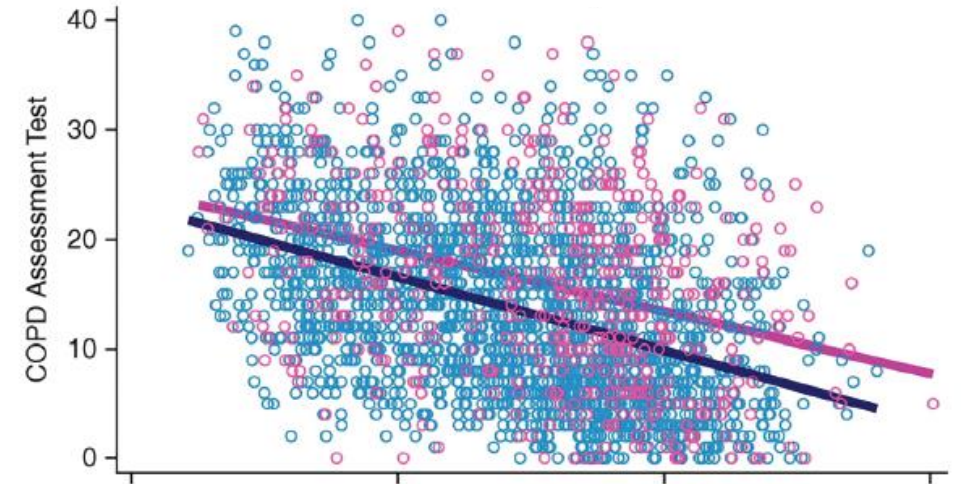


Better lung function among Black vs. White individuals using race specific equations

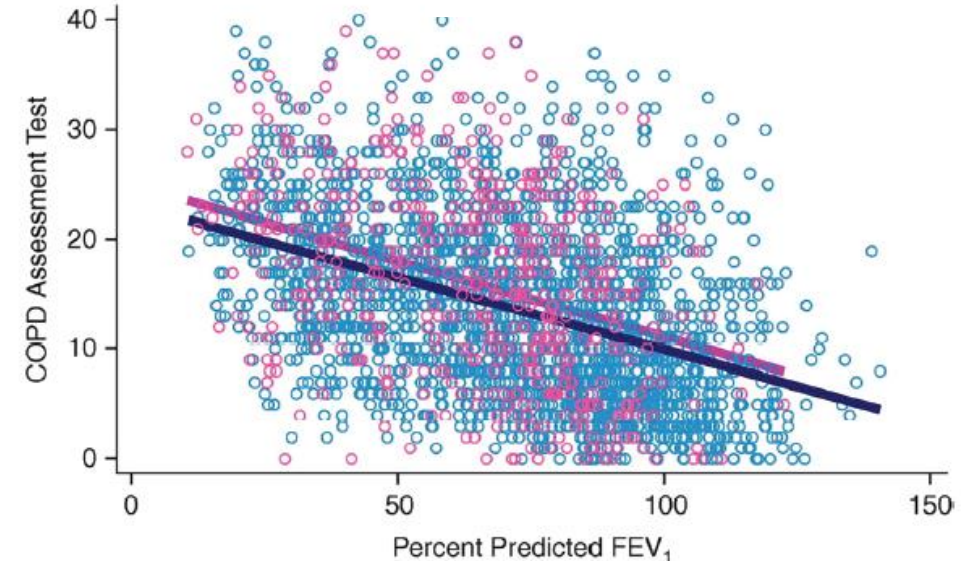
Worse lung function among Black vs. White individuals using universal equations



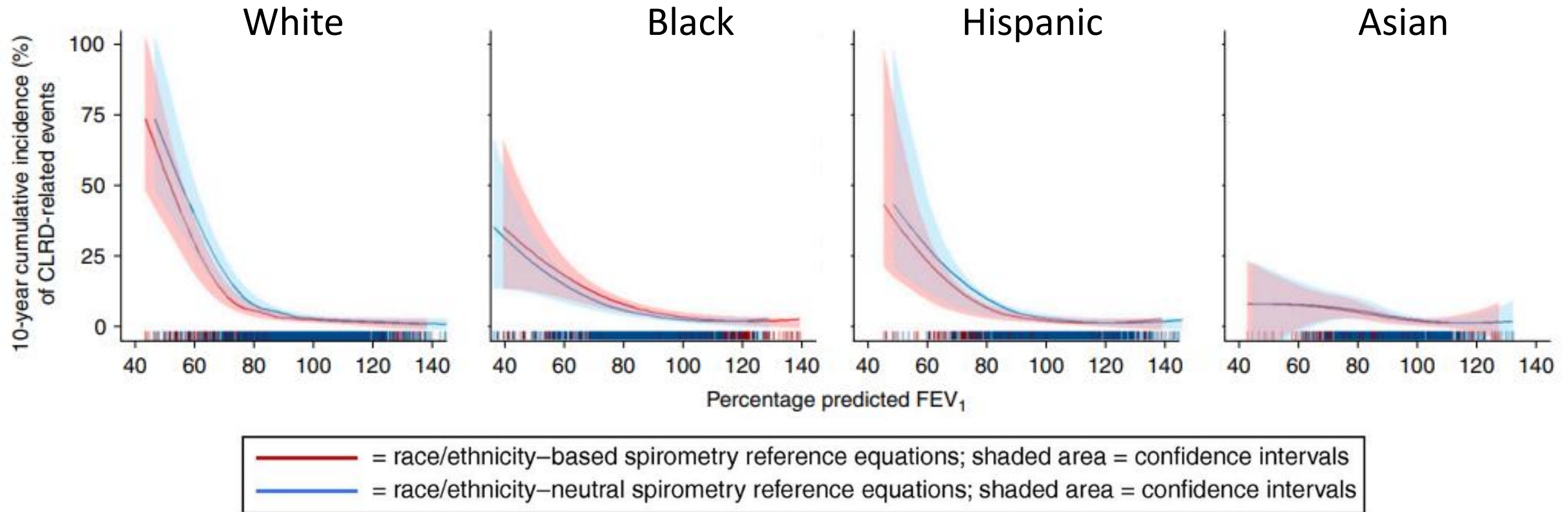
Hankinson Race Specific



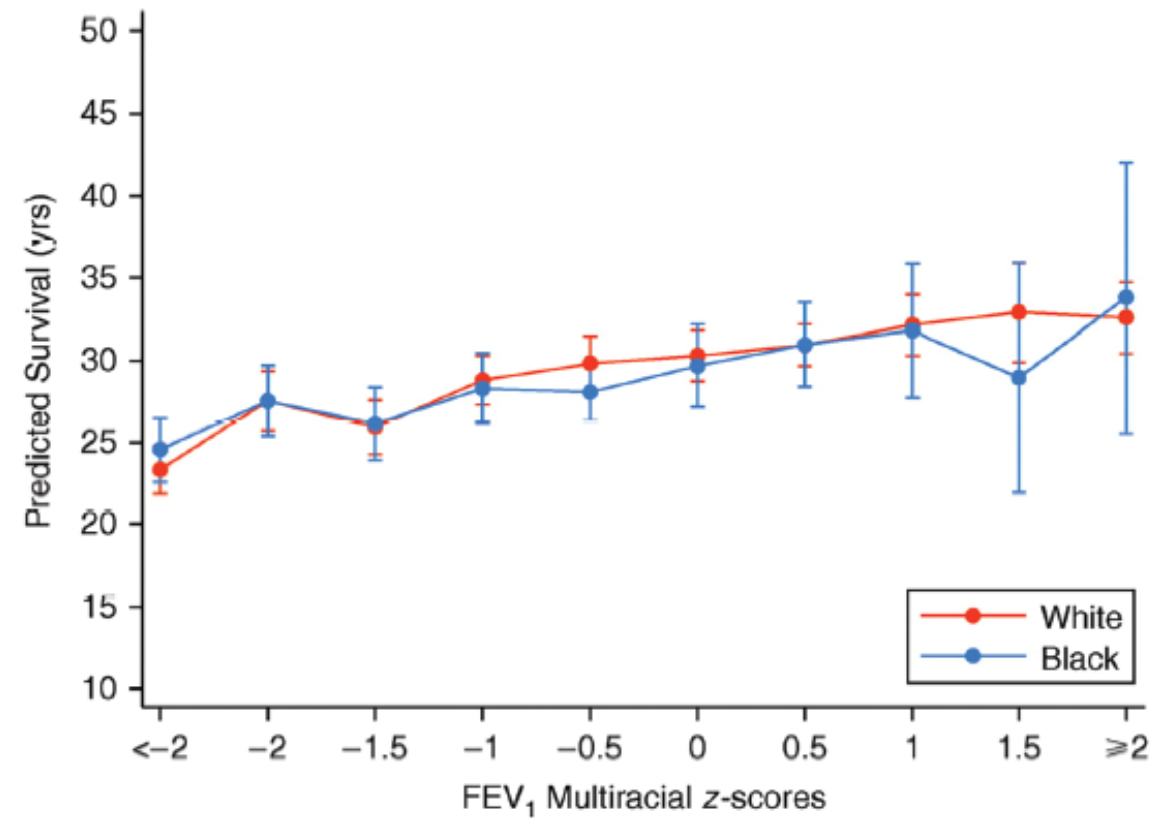
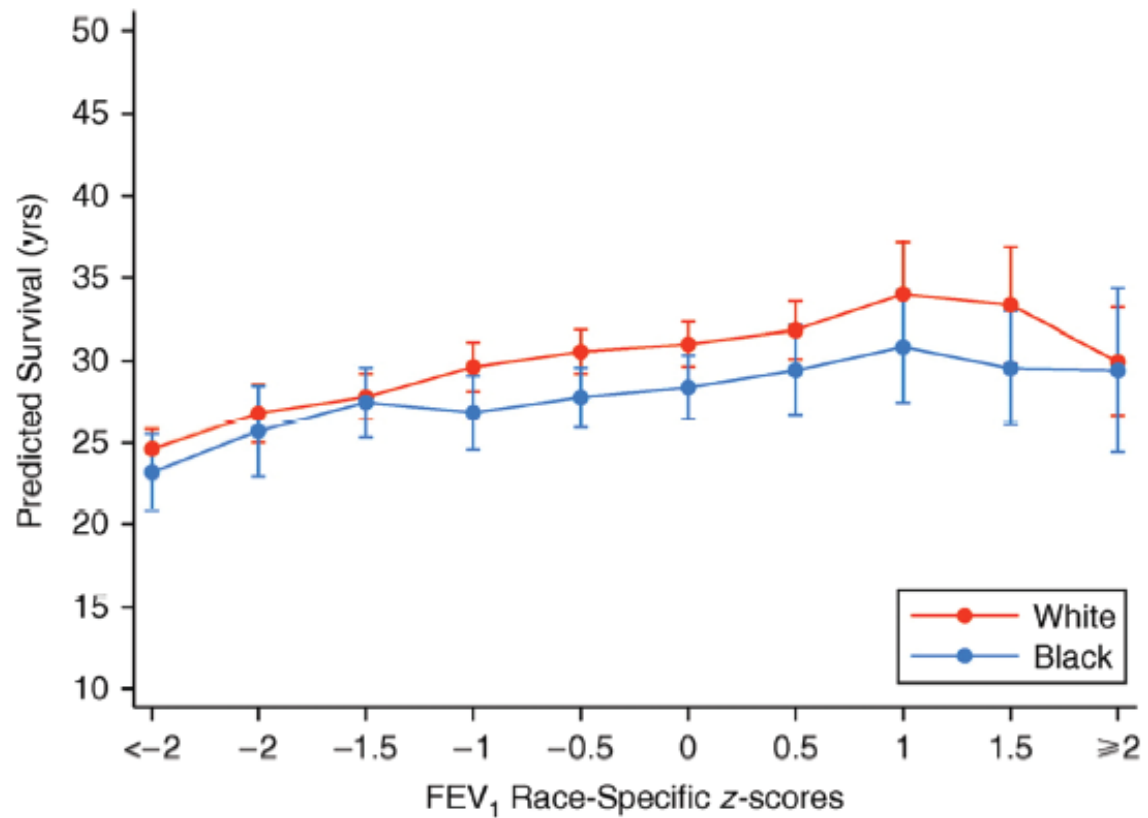
GLI Other - Universal



Race-based reference equations do not predict chronic lower respiratory disease better than race neutral equations



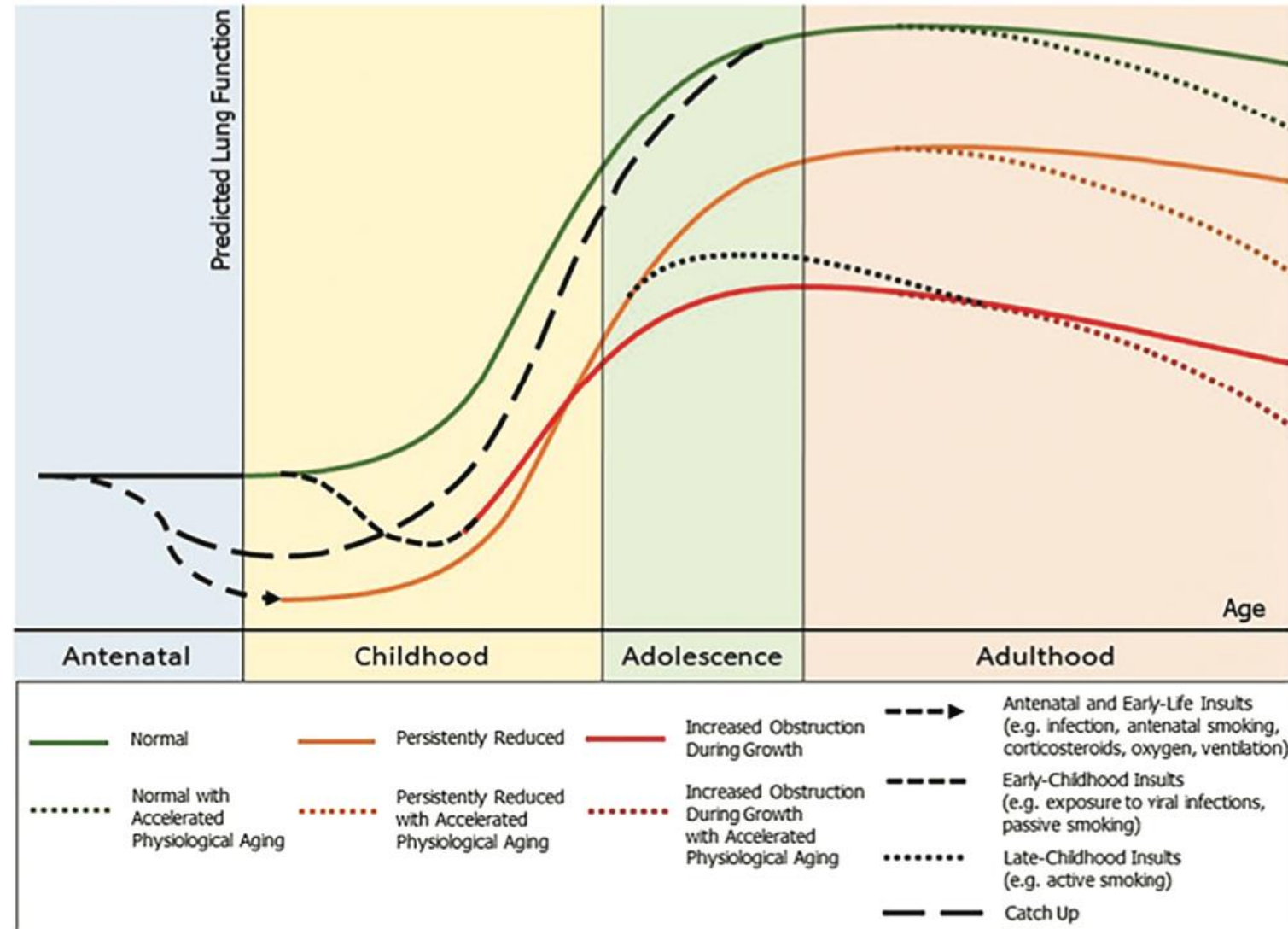
Lower predicted survival for Black individuals when race-specific equations used



Determinants of pulmonary function

Early-life
 Prematurity
 Infections
 Nutrition: over and under
 Second-hand smoke
 Indoor/outdoor pollution
 Discrimination, stress
 Genetics

Genetic ancestry vs
 SNPs




AMERICAN THORACIC SOCIETY DOCUMENTS

Race and Ethnicity in Pulmonary Function Test Interpretation An Official American Thoracic Society Statement

Nirav R. Bhakta, Christian Bime, David A. Kaminsky, Meredith C. McCormack, Neeta Thakur, Sanja Stanojevic, Aaron D. Baugh, Lundy Braun, Stephanie Lovinsky-Desir, Rosemary Adamson, Jonathan Witonsky, Robert A. Wise, Sean D. Levy, Robert Brown, Erick Forno, Robyn T. Cohen, Meshell Johnson, John Balmes, Yolanda Mageto, Cathryn T. Lee, Refiloe Masekela, Daniel J. Weiner, Charlie G. Irvin, Erik R. Swenson, Margaret Rosenfeld, Richard M. Schwartzstein, Anurag Agrawal, Enid Neptune, Juan P. Wisnivesky, Victor E. Ortega, and Peter Burney; on behalf of the American Thoracic Society Committees on Pulmonary Function Testing and on Health Equity and Diversity

THIS OFFICIAL STATEMENT OF THE AMERICAN THORACIC SOCIETY (ATS) WAS APPROVED BY THE ATS FEBRUARY 2023 AND ENDORSED BY THE EUROPEAN RESPIRATORY SOCIETY MARCH 2023



Key conclusions/ recommendations

- PFT labs should adopt a race-neutral approach to PFT interpretation – use average reference equations
- Global Lung Function Initiative (GLI) average equation (GLI-global)
 - Weighted average of data included in the original GLI ethnicity-specific equations
 - Many of the world's population still not included
 - Race composite, not race agnostic

Examples of results close to thresholds for which decision change depending on reference equations

	Black Reference Equation		White Reference Equation		"Other" Average Reference Equation	
	FEV ₁	FVC	FEV ₁	FVC	FEV ₁	FVC
Life insurance evaluation (female: age, 54 yr; height, 166 cm; FEV1 = 1.44 L)	60%		52%		56%	

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Evaluation for interstitial disease (male: age, 54 yr; height, 190 cm; FVC = 3.90 L)		81%		68%		74%

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Determining need for noninvasive ventilatory support for neuromuscular weakness (male: age, 60 yr; height, 176 cm; FVC= 2.2 L)		57%		49%		53%

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Determining need for noninvasive ventilatory support for neuromuscular weakness (male: age, 60 yr; height, 176 cm; FVC= 2.2 L)		57%		49%		53%
Threshold for lung transplantation evaluation for ILD (male: age, 60 yr; height, 176 cm; FVC = 1.6 L)		42%		35%		38%

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Fitness for surgical lung cancer resection (male: age, 60 yr; height, 176 cm; FEV1 = 1.1 L; planned RUL)	31%		26%		28%	

What happens next?

What is the ideal population composition contributing to reference equations?

Threshold-based decisions should be backed by evidence of benefit

How much of variation in lung function results from social and environmental effects? How can they be incorporated in PFT interpretation without norming?

Move beyond a statistical description of an individual's lung function to the relationship with meaningful health outcomes

Increase diversity of people and diseases in studies on pulmonary function

Role of race and ethnicity in improving lung health and function?

Role of local reference equations meeting rigorous quality standards and that represent an average inclusive of the diversity of that population?

Exploration of alternative approaches, such as FEV1Q

Exploration of alternatives to height such as chest dimensions

Acknowledgments



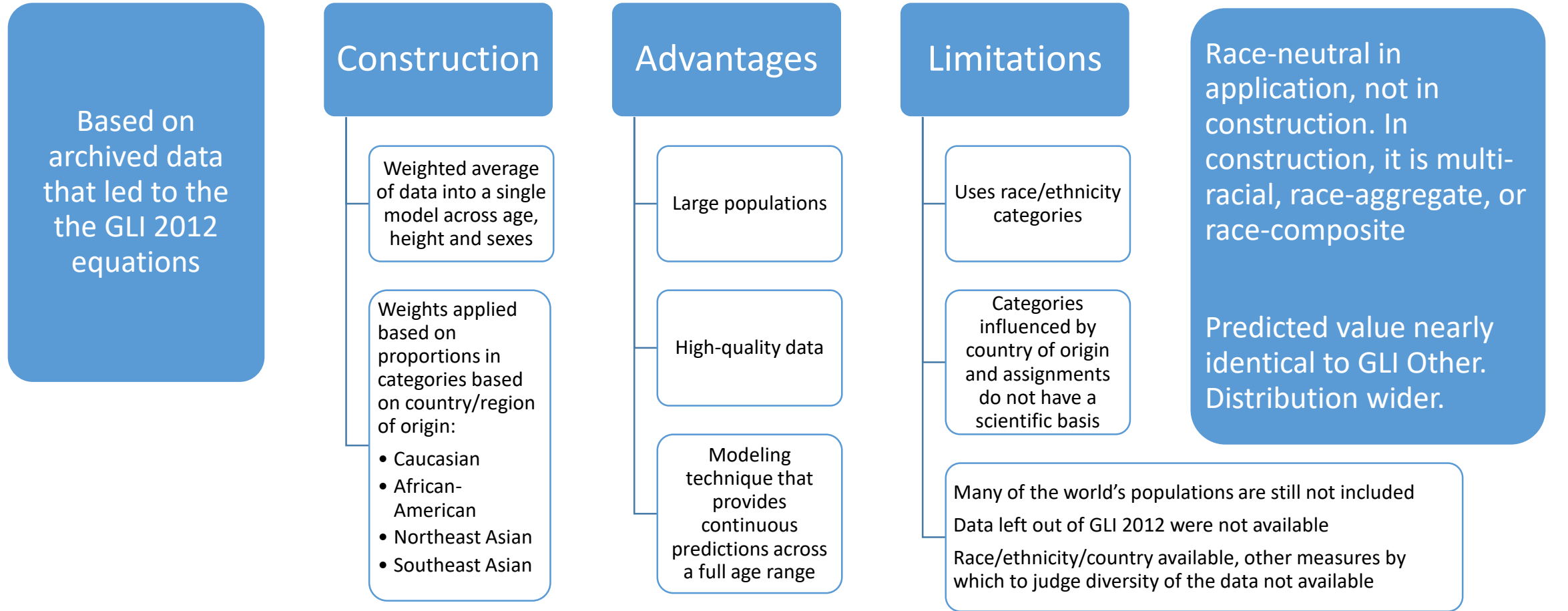
ATS Executive Committee

Kevin Wilson

Chief of Documents and Medical Affairs for the American Thoracic Society

Peer reviewers

GLI Global



- Not yet available for *DLCO* or lung volumes
- Older devices will need updates or replacement



CERCA Evaluation Update

May 19, 2023

CERCA Evaluation Objectives



Assess effectiveness of CERCA leadership and meetings



Describe how healthcare systems eliminated race adjustment



Describe health systems' implementation facilitators and barriers



Describe development and implementation of patient engagement strategies



Measure real-world effects on health inequities (i.e., clinical outcomes)

Data Collection Activities

	CERCA Member Survey	CERCA Lead Interviews	Clinical Outcomes
<u>Timing</u>	July 2023	Sept. – Nov. 2023	Sept. 2023 (flexible)
<u>Purpose</u>	<p>Understand perceptions of meetings and leadership</p> <p>Understand communications and technical assistance needs</p> <p>Collect ideas on how to improve future iterations of CERCA</p>	<p>Assess progress made on</p> <ul style="list-style-type: none"> • Workplan • Evaluation plan • Patient engagement plan <p>Understand implementation:</p> <ul style="list-style-type: none"> • Successes • Challenges • Best practices <p>Gain a deeper understanding of perceptions of the utility of CERCA membership</p>	<p>Members are welcome to share summaries of their evaluation findings with DOHMH</p> <p>Providing outcomes data is voluntary</p>

- CMO team will be reaching out to schedule 1:1s to further discuss evaluation and answer questions regarding to participation

Next steps:

- Continue to submit patient engagement plans to Adriana Joseph
ajoseph4@health.nyc.gov
- CMO team will reach out to schedule 1:1 calls
- Meeting 11 – Friday, July 21st from 1 to 2:30 EST

Thank You!