

NYC Coalition to End Racism in Clinical Algorithms



Michelle Morse, MD, MPH

Agenda

01 Overview of CERCA

02 CERCA Activities

03 Introduction to CERCA Advisory Council

04 Algorithms in Focus

05 Pledge

06 Timeline of CERCA

07 Closing

Overview of CERCA

What?

A citywide effort mediated through a coalition would provide a shared timeline and vision for removing these structures from both the health care delivery and educational institutions of medicine.

Why?

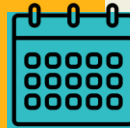
Efforts are needed to end race correction at scale, quantify the impact on health inequities, and proactively initiate city-wide outreach to patients whose care was delayed because of race correction.

Who?

- **NYC Health Department's CMO** will be the convener
- **Coalition Members** who have pledged.
- **NYC CERCA Advisory Committee** composed of nationally recognized experts

When?

Launch: Fall 2021



Duration: The coalition will run for at least two years.

The inaugural report from the coalition will be published by June 2022.

Where?

NYC CERCA meetings will be held virtually.

“Every system is perfectly designed to get the results it gets.”

—Paul Batalden

- Black race being used as proxy for muscle mass by MDRD and other equations
- Muscle mass and associated serum creatinine levels factor into eGFR
- eGFR below threshold (60) → diagnosis of chronic kidney disease (CKD)
- Race correction may overestimate an African American patient’s muscle mass → overestimate eGFR → delayed diagnosis of CKD (often asymptomatic to stage 3 out of 5) → delayed referral to nephrologist
- Prevalence of stage 1 and 2 CKD lower among African Americans than among Whites (why?)
- Prevalence of end-stage renal disease 400% higher among African Americans than among Whites (why?)
- Magnitude of equation’s contribution to delayed diagnosis among African American patients may be small, but it is in the direction of the inequity

Goals



To raise awareness amongst health system partners on how race correction contributes to racial health inequities.



To eliminate race correction in at least one clinical algorithm at institutions that have pledged to join the coalition within 2 years of the launch of the coalition.



To measure institutional and citywide impacts of eliminating race correction on racial health inequities at coalition.



To elevate and communicate the commitments to racial and ethnic health equity of the members of the coalition

To avoid the potential impact race correction may have on the provision of timely care and referrals.



Recent Developments

- **On January 20, 2021**, President Biden issued the Executive Order on Advancing Racial Equity and Support for Underserved Communities
 - In February 2021, the Biden Administration issued an RFI on the “Use of Clinical Algorithms that Have the Potential to Introduce Racial/Ethnic Bias into Healthcare Delivery” through the AHRQ.¹
- **In September 2021**, NEJM published a new 2021 CKD-EPI creatinine eGFR equation that is refit to estimate kidney function without a race variable²
- **In October 2021**, the House Committee on Ways & Means reported on their work on clinical algorithms and racism
 - Ways and Means Committee Chairman Richard E. Neal (D-MA) sent a series of letters in September 2020 to professional medical societies → Analysis: there are divergent opinions on the appropriate use of race and ethnicity in CDSTs.³



¹The White House. “Executive Order On Advancing Racial Equity and Support for Underserved Communities Through the Federal Government,” January 21, 2021. <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/>.

²Inker, Lesley A., Nwamaka D. Eneanya, Josef Coresh, Hocine Tighiouart, Dan Wang, Yingying Sang, Deidra C. Crews, et al. “New Creatinine- and Cystatin C–Based Equations to Estimate GFR without Race.” *New England Journal of Medicine*, September 23, 2021, NEJMoa2102953. <https://doi.org/10.1056/NEJMoa2102953>.

³Raymond, Katherine. “Fact Versus Fiction: Clinical Decision Support Tools and the (Mis)Use of Race,” n.d., 40.

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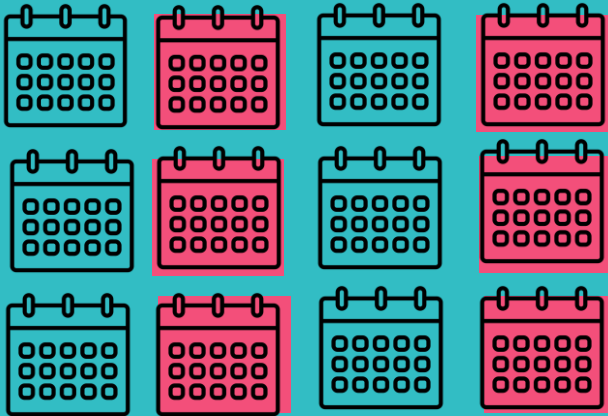
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Convene bi-monthly meetings (6 meetings per year) for 90-minutes.



Achieve 3 deliverables:

A work plan, which describes activities required to end race correction at coalition members.



An evaluation plan to monitor racial/ethnic equity indicators over time after the new clinical algorithm has been implemented



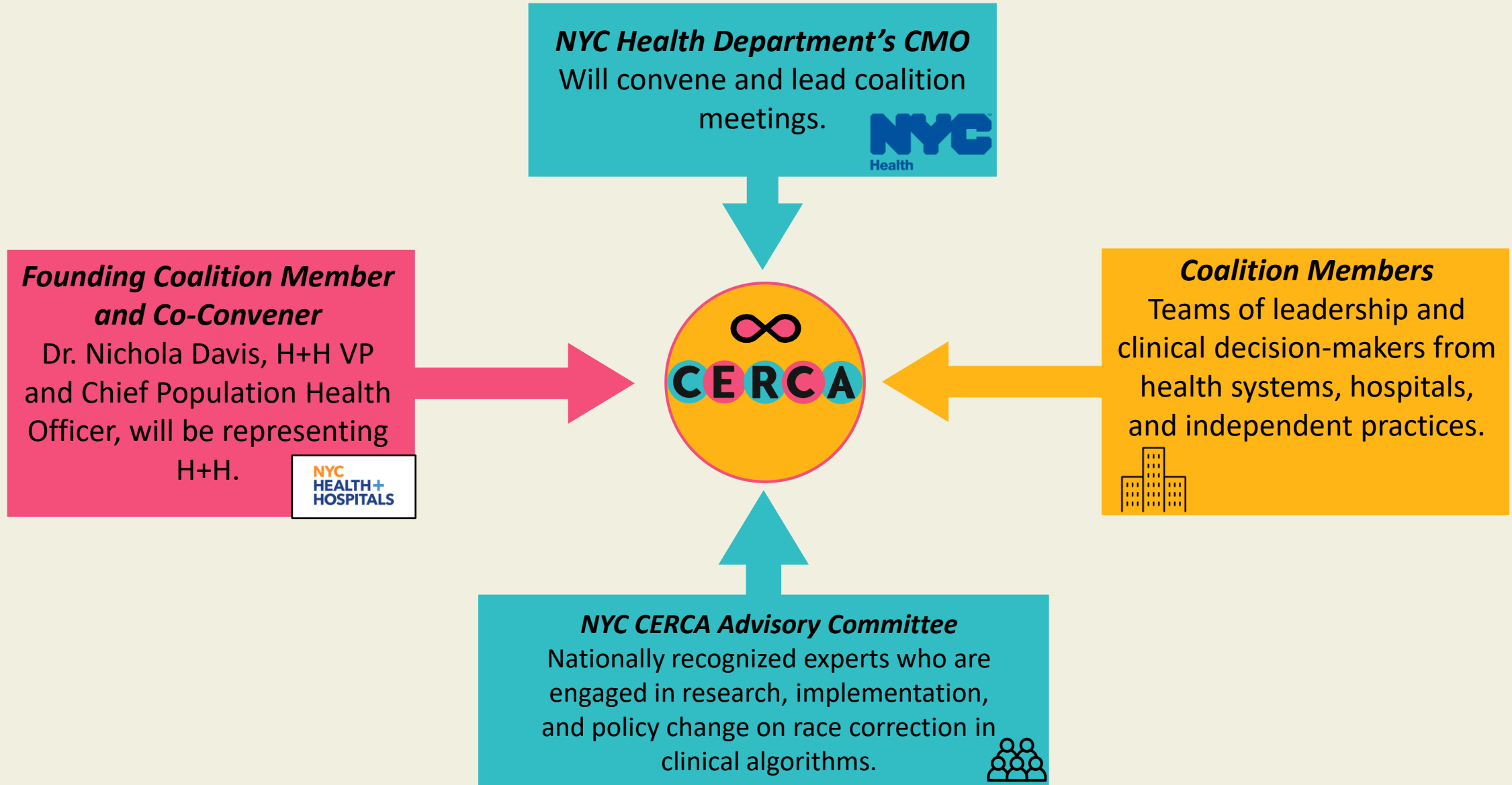
A plan to mitigate the potential impact of race correction.



Developing or adapting an existing toolkit that institutions can use to make the changes necessary to end race correction



CERCA Members

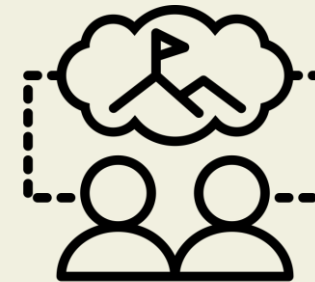


Role of the NYC DOHMH



The Health Department will serve as the convener for the coalition (which will function like a learning collaborative), provide information and change-management resources, and connect coalition members to experts and technical assistance.

A citywide effort mediated through a coalition would provide a shared timeline and vision for removing these structures from both the health care delivery and educational institutions of medicine.



H+H has already ended reporting of race corrected eGFR and use of the VBAC calculator. Many other healthcare delivery institutions are considering ending race correction and we are seeking coordination across institutions.

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Advisory Council



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Insights from Critical Race Theory (CRT)

Tenets of CRT (Derrick Bell)

Racism is:

- Embedded in society
- Serves the material/psychic interests of the dominant group
- Social construction of race
- Intersectionality
- Upheld by interest convergence

Public Health Critical Race Praxis

Critical Race Theory vs. Public Health:

- Science is NOT objective
- Generate knowledge from OUTSIDE a discipline's core knowledge base

¹⁴ Ford C and Airhihenbuwa C. Just What is Critical race theory and What's it doing in a progressive field like Public health? *Ethn Dis.* 2018; 28 (Suppl 1): 223-230.

**Vaginal Birth
after Caesarean
(VBAC)**




**Pulmonary
Function Tests**

**Estimated
Globular
Function Rate
(eGFR)**



- In a cross-sectional study conducted in 2020, of 2225 African American patients 743 (33.4%) would hypothetically be reclassified to a more severe CKD stage if the race multiplier were removed from the CKD-EPI equation.
- Similarly, 167 of 687 (24.3%) would be reclassified from stage 3B to stage 4.
- Finally, 64 of 2069 patients (3.1%) would be reassigned from $\text{eGFR} > 20 \text{ ml/min/1.73 m}^2$ to $\text{eGFR} \leq 20 \text{ ml/min/1.73 m}^2$, meeting the criterion for accumulating kidney transplant priority.⁵

Examining the Potential Impact of Race Multiplier Utilization in Estimated Glomerular Filtration Rate Calculation on African-American Care Outcomes

Salman Ahmed, MD, MPH¹ , Cameron T. Nutt, MD², Nwamaka D. Eneanya, MD, MPH³, Peter P. Reese, MD, MSCE³, Karthik Sivashanker, MD^{4,5}, Michelle Morse, MD, MPH^{2,6,7}, Thomas Sequist, MD, MPH^{2,8}, and Mallika L. Mendu, MD, MBA^{1,5,9}

⁵ Ahmed S, Nutt CT, Eneanya ND, Reese PP, Sivashanker K, Morse M, Sequist T, Mendu ML. Examining the Potential Impact of Race Multiplier Utilization in Estimated Glomerular Filtration Rate Calculation on African-American Care Outcomes. J Gen Intern Med. 2021 Feb;36(2):464-471.



- The “correction” factor for Black race calculates level of kidney function for “Black” patients that appear healthier than White patients for the same measured lab result.



- In a prospective cohort study including 1658 self-identified Black patients, Zelnick et al. demonstrated that removing race-based eGFR was associated with a 35% higher risk of achieving an eGFR of less than 20 mL/min/1.73 m¹ (eligibility for kidney transplant) with a decrease in median time of 1.9 years.⁴

Original Investigation | Nephrology

January 14, 2021

Association of the Estimated Glomerular Filtration Rate With vs Without a Coefficient for Race With Time to Eligibility for Kidney Transplant

Leila R. Zelnick, PhD¹; Nicolae Leca, MD²; Bessie Young, MD, MPH^{1,3}; [et al](#)

⁴Zelnick LR, Leca N, Young B, Bansal N. Association of the Estimated Glomerular Filtration Rate With vs Without a Coefficient for Race With Time to Eligibility for Kidney Transplant. *JAMA Netw Open*. 2021;4(1):e2034004. doi:10.1001/jamanetworkopen.2020.340





UPDATE

- **As of September 2021, NSF-AKF task force has recommended “the adoption of the new 2021 CKD-EPI creatinine eGFR equation that is refit to estimate kidney function without a race variable”!**
- **“The NKF-ASN Task Force also recommended increased use of cystatin C combined with serum creatinine, as a confirmatory assessment of GFR or kidney function. ”**
- **“NKF-ASN urges all laboratories and healthcare systems nationwide to adopt this new equation to estimate GFR as rapidly as possible”.⁶**

THE NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

New Creatinine- and Cystatin C–Based Equations to Estimate GFR without Race

L.A. Inker, N.D. Eneanya, J. Coresh, H. Tighiouart, D. Wang, Y. Sang, D.C. Crews, A. Doria, M.M. Estrella, M. Froissart, M.E. Grams, T. Greene, A. Grubb, V. Gudnason, O.M. Gutiérrez, R. Kalil, A.B. Karger, M. Mauer, G. Navis, R.G. Nelson, E.D. Poggio, R. Rodby, P. Rossing, A.D. Rule, E. Selvin, J.C. Seegmiller, M.G. Shlipak, V.E. Torres, W. Yang, S.H. Ballew, S.J. Couture, N.R. Powe, and A.S. Levey, for the Chronic Kidney Disease Epidemiology Collaboration*

Calculator

| | | | |
|---------------------------------|--|--|------------------------------|
| Serum Creatinine: | <input type="text"/> | <input checked="" type="radio"/> mg/dL | <input type="radio"/> μmol/L |
| Serum Cystatin C: | <input type="text"/> | mg/L | |
| Age: | <input type="text"/> | Years | |
| Gender: | <input checked="" type="radio"/> Male <input type="radio"/> Female | | |
| Standardized Assays: | <input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Sure | | |
| Remove body surface adjustment: | <input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Not Sure | | |

Calculate

⁶ Delgado, Cynthia, Mukta Baweja, Deidra Crews, Nwamaka Eneanya, Crystal Gadegbeku, Lesley Inker, Mallika Mendu, et al. “A Unifying Approach for GFR Estimation: Recommendations of the NKF-ASN Task Force on Reassessing the Inclusion of Race in Diagnosing Kidney Disease.” *Journal of the American Society of Nephrology*, September 22, 2021. <https://doi.org/10.1681/ASN.2021070988>. (Photo) ² Inker, Lesley A., Nwamaka D. Eneanya, Josef Coresh, Hocine Tighiouart, Dan Wang, Yingying Sang, Deidra C. Crews, et al. “New Creatinine- and Cystatin C–Based Equations to Estimate GFR without Race.” *New England Journal of Medicine*, September 23, 2021, NEJMoa2102953. <https://doi.org/10.1056/NEJMoa2102953>.



Algorithms in Focus: VBAC

- History of documented anatomical inferiority of Black and Indigenous women related to “pelvic architecture”, deeply rooted in medical racism
- “...a 30-year-old woman with a BMI of 35 and one prior cesarean for arrest of labor is assigned a 46% chance of successful VBAC if she is identified as white and a 31% chance if she is identified as African American or Hispanic.”
- Racial categorizations are unclear, can be based on a combination of factors, e.g., country of origin, skin color, primary language, etc.
- “While it is critical to acknowledge racial inequities in maternal outcomes, the lack of biological plausibility for race-based correction factors and their potential to worsen existing disparities...we strongly urge obstetrics practices to no longer include race-based correction in VBAC risk-stratification.”

Variables Included in Validated Models for VBAC Risk Stratification*

| United States (Grobman et al., 2007) | Canada (Chaillet et al., 2013) | Sweden (Fagerberg et al., 2015) |
|---|--------------------------------|--|
| Maternal age | Maternal age | Maternal age |
| BMI | BMI | BMI |
| Prior vaginal delivery | Prior vaginal delivery | Prior vaginal delivery |
| Prior VBAC | Prior VBAC | Prior VBAC |
| Prior indication for cesarean | Prior indication for cesarean | Prior indication for cesarean |
| Maternal race | | Maternal height |
| | | Delivery unit's rate of ERCS |
| | | Delivery unit's rate of unplanned cesarean section |

Abbreviations: BMI, body mass index; ERCS, elective repeat cesarean section; VBAC, vaginal birth after cesarean delivery.

* Only the U.S. version includes maternal race as a risk factor.

Commentary

Women's Health Issues 29-3 (2019) 201–204

Challenging the Use of Race in the Vaginal Birth after Cesarean Section Calculator

 Check for update

Darshali A. Vyas, BA^{a,*}, David S. Jones, MD, PhD^a, Audra R. Meadows, MD, MPH^{a,b}, Khady Diouf, MD^{a,b}, Nawal M. Nour, MD, MPH^{a,b}, Julianna Schantz-Dunn, MD, MPH^{a,b}

^aHarvard Medical School, Boston, Massachusetts

^bDepartment of Obstetrics and Gynecology, Brigham and Women's Hospital, Boston, Massachusetts

Article history: Received 18 February 2019; Received in revised form 7 April 2019; Accepted 12 April 2019

Algorithms in Focus: VBAC

- In a retrospective cohort study including 302 women, the inclusion of race has a significant impact on VBAC scores.⁸
- Non-Hispanic Black and Hispanic women were significantly less likely to have favorable VBAC scores compared to White women.
- Removal of race correction was seen to have no significant difference in predicted VBAC successes across all races, non-Hispanic black aOR 1.29 (95% CI 0.49, 3.44); Hispanic aOR 1.71 (95% CI 0.6, 4.92).

In a recent study, Grobman et al. has developed and validated a VBAC calculator without the use of race and ethnicity.⁹



Prediction of vaginal birth after cesarean delivery in term gestations: a calculator without race and ethnicity

[William A. Grobman, MD, MBA](#) • [Grecio Sandoval, MA](#) • [Madeline Murguia Rice, PhD](#) • ...

[Monica Longo, MD](#) • [Mark B. Landon, MD](#) •

On behalf of the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network •

[Show all authors](#)

Published: May 23, 2021 • DOI: <https://doi.org/10.1016/j.ajog.2021.05.021>

⁸ Faulkner S, Haas M, Wang D, et al. 746 The effects of removing race from the VBAC calculator: implications for counseling. *Am J Obstet Gynecol*. 2021;224(2):S467-S468. doi:10.1016/j.ajog.2020.12.769

⁹ Grobman WA, Sandoval G, Rice MM, et al. Prediction of vaginal birth after cesarean delivery in term gestations: a calculator without race and ethnicity. *Am J Obstet Gynecol*. Published online May 24, 2021:S0002-9378(21)00587-1. doi:10.1016/j.ajog.2021.05.021



Algorithms in Focus: PFT

- Systemic racism has been embedded in precision instruments for over hundreds of years, this is seen with the lung function (spirometry) where racial differences was used to justify racism.

American Journal of Respiratory and Critical Care Medicine 2021;203:A1030

The Impact of Race Correction on the Interpretation of Pulmonary Function Testing Among Black Patients

A.T. Moffett¹, N.D. Eneanya¹, S.D. Halpern¹, G.E. Weissman¹,
https://doi.org/10.1164/ajrccm-conference.2021.203.1_MeetingAbstracts.A1030

- In recent study evaluating the impact of race correction on PFT, Moffett et al. interpreted over 14,080 PFTs and the removal of race correction resulted in “diagnosis of obstruction for an additional 414 patients”, an 1.7% (22.1% to 23.9%) increase of prevalence of obstructive lung disease, “diagnosis of restriction for an additional 665 patients” an 4.7% (8.8% to 13.5%) increase in the prevalence of restrictive lung disease, and there was an increase in any pulmonary defect by 20.8% (59.5% to 81.7%).¹⁰

¹⁰ Moffett AT, Eneanya ND, Halpern SD, Weissman GE. The Impact of Race Correction on the Interpretation of Pulmonary Function Testing Among Black Patients. In: A7. A007 IMPACT OF RACE, ETHNICITY, AND SOCIAL DETERMINANTS ON INDIVIDUALS WITH LUNG DISEASES. American Thoracic Society; 2021:A1030-A1030. doi:10.1164/ajrccm-conference.2021.203.1_MeetingAbstracts.A1030



On the Road to Health Equity

Eliminating Race-Based Medicine at NYC H+H

Nichola Davis, MD, MS

Vice President

Chief Population Health Officer

NYC Health + Hospitals



“Medical Racism” Initiative Aims to Abolish Race-Based Assessments Used for Medical Decisions

Public health care system will eliminate common diagnostic tests for kidney disease and pregnancy that are based on biased assumptions and can negatively impact quality of care for patients of color

Initiative builds on the health system’s commitment to eliminate implicit bias in health care and provide equitable, quality care to all patients

Steps to Eliminating Race-based GFR

- Identification of the Problem
- Political will to change
 - Office of Quality & Safety
 - Equity and Access Council
 - System CMO
 - Clinical Councils- Internal Med, Nephrology, Critical Care
 - Clinical Laboratories
 - EMR

MEDICAL ERACISM: REMOVING RACE-BASED eGFR



CONTEXT

- When calculating a patient's kidney function (GFR), we often use a set of calculations based on various factors to estimate their glomerular filtration rate or eGFR
- Traditionally, these risk factors include serum creatinine, age, sex and **race (Black vs. non-Black)**
- The equation reports out two values. For Black patients it increases the estimated GFR by 16-21% to account for their "increased muscle mass", though no robust scientific evidence exists to support this claim
- **The unintended consequence is to assert and propagate a biological cause for Black bodies being different from all non-Black bodies, a popular eugenicist view**

CONTRIBUTING FACTORS



- ❑ African Americans have a **3x** and Hispanics **1.5x higher risk** of developing kidney failure than White Americans¹
- ❑ By having higher eGFRs, Black patients might have delayed referral to specialty services, dialysis and transplantation



KEY TAKEAWAYS

- ❑ The inclusion of race is fraught with bias and has lasting deleterious implications for our Black patients. **For a multitude of social and scientific reasons, the Nephrology workgroup feels strongly that the inclusion of subjective race (a social construct) as an objective (biologic) proxy for creatinine generation / clearance in the biomedical environment does not meet the scientific rigor required at NYC Health + Hospitals for our diagnostic screening tools.**

PLANS FOR CORRECTIVE ACTION



- ❑ Lab Services - Standardize all eGFR calculations to use CKD-EPI eGFR(Cr) where results will be reported without race adjustment based on serum creatinine, age, sex, and is normalized to 1.73m2 body surface area
- ❑ Epic – Work to ensure raced based eGFR is no longer reported out as 2 different values to our clinicians and patients
- ❑ **Approved by Nephrology Workgroup, IM Council, ICU & OB/GYN leadership, Quality & Safety, Medical & Professional Affairs, Equity & Access Council, Clinical Lab Council, CMO Council**

1. <https://www.kidney.org/news/establishing-task-force-to-reassess-inclusion-race-diagnosing-kidney-diseases>



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NYC Coalition to End Racism in Clinical Algorithms (NYC CERCA)
2021 Pledge

Thank you for your commitment to and participation in NYC CERCA. Coalition members are urged to pledge to undertake the following actions:

1. A work plan that includes activities required to implement a new clinical algorithm without race correction
2. An evaluation plan to monitor racial/ethnic equity indicators retrospectively and/or over time after the new clinical algorithm has been implemented
3. A plan to prevent delays in care and referrals for patients whose clinical status may have been impacted by race correction

Please send completed form to Adriana Joseph, ajoseph4@health.nyc.gov.

Name of Organization: _____

Please select at least one clinical algorithm your organization is pledging to change:

- ☐ Estimated Globular Filtration Rate (eGFR)
- ☐ Vaginal Birth After Cesarean (VBAC)
- ☐ Pulmonary Function Test (PFT)

Organization Lead Name and Title: _____

Email: _____ Telephone: _____

Twitter Handle: _____

Organization Team Members Names and Titles:

| Name | Title | Email | Telephone | Twitter Handle |
|------|-------|-------|-----------|----------------|
| | | | | |
| | | | | |
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Healthcare institutions have been invited to join CERCA and commit to:

- Learning about the harms of race correction in clinical algorithms
- Ending race correction in at least one clinical algorithm
- Measuring and publicly reporting the impact of ending race correction on racial health inequities amongst the patients they serve

Institutions should respond by **Friday, October 29th** with signed pledge.

Please send the completed form attached to the invitation email to **Adriana Joseph**
ajoseph4@health.nyc.gov

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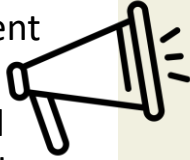
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Timeline

Announcement

- Disseminate announcement and invitation
- Institutions submit signed pledge, identifying clinical algorithm(s) to be changed by October 29th
- Release joint statement and/or press release on pledge

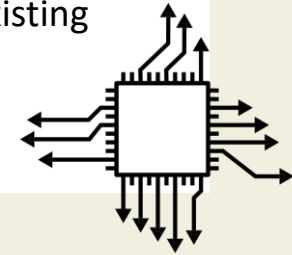


Work Plan

- Coalition members convene to discuss work plan to end race correction within institution

Dissemination of inaugural CERCA report

- Use new and existing communication mechanisms to disseminate



October 2021

November 2021

December 2021 – March 2022

April – July 2022

June 2022

YEAR 1

Launch

- Coalition members will convene for the first CERCA meeting
- H+H present on progress in ending race correction system-wide
- Discuss data sharing to track city-wide progress on ending practice of race correction



Evaluation Plan

- Coalition members convene to develop evaluation plan to monitor equity impacts pre- and post- algorithm change

Patient Engagement Plan

- Coalition members convene to plan on patient engagement around additional care and referrals



August – November 2022

Implementation of Evaluation & Patient Engagement Plan

- Institutions will implement evaluation plan, and patient engagement plan to identify and engage patients who would benefit from additional referrals or care

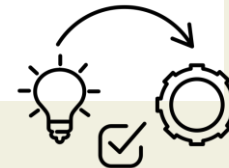
December 2022

January – March 2023

YEAR 2

Implementation of new clinical algorithms without race correction

- Coalition members implement new clinical algorithm(s)



Next steps:

- Please submit your signed pledge form to ajoseph4@health.nyc.gov by October 29th
- The first meeting of CERCA will occur in mid November!

Thank You!

References

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