NYC Coalition to End Racism in Clinical Algorithms Meeting #3

Michelle E. Morse, MD, MPH
Chief Medical Officer
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New York City Department of Health and Mental Hygiene

Agenda

01 Welcome – Dr. Michelle Morse

02 Case of Jordan Crowley – Dr. Jenny Tsai

03 eGFR Literature Review – Dr. Salman Ahmad

04 *The Race Correction Debates: Progress, Tensions, and Future Directions* – Dr. Michelle Morse

05 Breakout Groups by Algorithms

06 Closing + Next Steps

The Case of Jordan Crowley

Jennifer Tsai, MD, M.Ed.
Emergency Medicine Physician
Department of Emergency Medicine
Yale School of Medicine

eGFR Literature Review & Update

Salman Ahmed, MD, MPH
Nephrologist and Assistant Professor
Baylor College of Medicine

Race and eGFR: Literature Review Through March 2022

Salman Ahmed MD MPH
Assistant Professor, General Internal Medicine
Baylor College of Medicine
March 25, 2022

September 2021 recommendations

A Unifying Approach for GFR Estimation: Recommendations of the NKF-ASN Task Force on Reassessing the Inclusion of Race in Diagnosing Kidney Disease

Recommend immediate implementation of the *CKD-EPI creatinine equation refit without the race variable* in all laboratories in the U.S.

The equation refit excludes race in the calculation and reporting, includes diversity in its development, is immediately available to all labs in the U.S. and has acceptable performance characteristics and potential consequences that do not disproportionately affect any one group of individuals.

Recommend national efforts to facilitate increased, routine, and timely use of cystatin C, especially to confirm eGFR in clinical decision-making

Encourage and fund research on GFR estimation with new endogenous filtration markers and on interventions to eliminate racial and ethnic disparities

The Task Force gathered input from diverse stakeholders and carefully reviewed the evidence to create these recommendations

Cynthia Delgado, Mukta Baweja, Deidra C. Crews, 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.* *AJKD DOI:* 10.1053/j.ajkd.2021.08.003, *JASN DOI: 10.1681/ASN.2021070988*

Visual Graphic by Edgar Lerma, MD, FASN

Literature Review

1. UC Davis clinical impact analysis
2. NEJM publication of Race, Genetic Ancestry, and Estimating Kidney Function in CKD
3. NEJM publication of new estimated GFR equations

UC Davis Clinical Impact Analysis

- UC Davis data showed “that a large number of patients in higher risk groups would either be reassigned from stage 3 to stage 4 CKD, or reassigned from CKD-negative to CKD-positive, simply by removing the race parameter from the calculation of their eGFR.”
- “These cases, as noted above, could represent cases of CKD that would be missed if the AA equation was utilized to calculate eGFR. However, they could also represent false positives.”

https://health.ucdavis.edu/blog/lab-best-practice/race-and-egfr-addressing-health-disparities-in-chronic-kidney-disease/2021/04

UC Davis Clinical Impact Analysis

- “To determine what the impact of utilizing the NAA equation exclusively on this population might be, a chart review was performed on the patients who were CKD positive by the NAA equation but CKD negative by the AA equation…
- “many of the patients in this group with borderline eGFRs have significant risk factors for CKD and at the least warrant close follow-up.”

https://health.ucdavis.edu/blog/lab-best-practice/race-and-egfr-addressing-health-disparities-in-chronic-kidney-disease/2021/04

November 2021 NEJM publication

ORIGINAL ARTICLE

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

Lesley A. Inker, M.D., Nwamaka D. Eneanya, M.D., M.P.H., Josef Coresh, M.D., Ph.D., Hocine Tighiouart, M.S., Dan Wang, M.S., Yingying Sang, M.S., Deidra C. Crews, M.D., Alessandro Doria, M.D., Ph.D., M.P.H., Michelle M. Estrella, M.D., M.H.S., Marc Froissart, M.D., Ph.D., Morgan E. Grams, M.D., M.H.S., Ph.D., Tom Greene, Ph.D., Anders Grubb, M.D., Ph.D., Vilmundur Gudnason, M.D., Ph.D., Orlando M. Gutiérrez, M.D., Roberto Kalil, M.D., Amy B. Karger, M.D., Ph.D., Michael Mauer, M.D., Gerjan Navis, M.D., Ph.D., Robert G. Nelson, M.D., Ph.D., Emilio D. Poggio, M.D., Roger Rodby, M.D., Peter Rossing, M.D., D.M.Sc., Andrew D. Rule, M.D., Elizabeth Selvin, Ph.D., M.P.H., Jesse C. Seegmiller, Ph.D., Michael G. Shlipak, M.D., M.P.H., Vicente E. Torres, M.D., Ph.D., Wei Yang, Ph.D., Shoshana H. Ballew, Ph.D., Sara J. Couture, M.P.H., Neil R. Powe, M.D., M.P.H., M.B.A., and Andrew S. Levey, M.D. for the Chronic Kidney Disease Epidemiology Collaboration*

METHODS:
We developed new eGFR equations without race using data from two development data sets: 10 studies (8254 participants, 31.5% Black) for serum creatinine and 13 studies (5352 participants, 39.7% Black) for both serum creatinine and cystatin C. In a validation data set of 12 studies (4050 participants, 14.3% Black), we compared the accuracy of new eGFR equations to measured GFR.

CONCLUSIONS:
New eGFR equations that incorporate creatinine and cystatin C but omit race are more accurate and led to smaller differences between Black participants and non-Black participants than new equations without race with either creatinine or cystatin C alone.

November 2021 NEJM publication

ORIGINAL ARTICLE

Race, Genetic Ancestry, and Estimating Kidney Function in CKD

Chi-yuan Hsu, M.D., Wei Yang, Ph.D., Rishi V. Parikh, M.P.H., Amanda H. Anderson, Ph.D., Teresa K. Chen, M.D., Debbie L. Cohen, M.D., Jiang He, M.D., Ph.D., Madhumita J. Mohanty, M.D., James P. Lash, M.D., Katherine T. Mills, Ph.D., Anthony N. Muiru, M.D., Afshin Parsa, M.D., M.P.H., Milda R. Saunders, M.D., M.P.H., Tariq Shafi, M.B., B.S., Raymond R. Townsend, M.D., Sushrut S. Waikar, M.D., M.P.H., Jianqiao Wang, M.S., Myles Wolf, M.D., Thida C. Tan, M.P.H., Harold I. Feldman, M.D., and Alan S. Go, M.D. for the CRIC Study Investigators*

METHODS:
In a large national study involving adults with chronic kidney disease, we conducted cross-sectional analyses of baseline data from 1248 participants for whom data, including the following, had been collected: race as reported by the participant, genetic ancestry markers, and the serum creatinine, serum cystatin C, and 24-hour urinary creatinine levels.

CONCLUSIONS:
The use of the serum creatinine level to estimate the GFR without race (or genetic ancestry) introduced systematic misclassification that could not be eliminated even when numerous non-GFR determinants of the serum creatinine level were accounted for. The estimation of GFR with the use of cystatin C generated similar results while eliminating the negative consequences of the current race-based approaches.

Summary

- NKF-ASN Task force systematically evaluated existing equations, engaged stakeholders, and delivered recommendations, including use of new equations
- Literature consists of clinical impact studies and development of new equations
- The work of informing vulnerable patients and their providers continues.

The Race Correction Debates: Progress, Tensions, and Future Directions: A Narrative Review (under review)

- Federal attention on race correction prompted Ways & Means Chairman, Rep. Richard Neal, to write letters to 13 professional societies
- Narrative review of responses from professional societies:

American Medical Association (AMA)

Accreditation Council for Graduate Medical Education (ACGME)

American College of Cardiology (ACC)

American Heart Association (AHA)

American College of Obstetricians and Gynecologists (ACOG)

American Society of Nephrology (ASN)

American Thoracic Society (ATS)

The Endocrine Society (ES)

Society of Thoracic Surgeons (STS)

American College of Emergency Physicians (ACEP)

American Society of Clinical Oncology (ASCO)

United Network for Organ Sharing (UNOS)

American Society of Transplant Surgeons (ASTS)

The Race Correction Debates: Progress, Tensions, and Future Directions: A Narrative Review (under review)

- *Areas of Consensus:*
  - Race is a social construct, not biological
  - Concrete actions steps to review clinical relevance of race correction vis-a-vie task forces and formal revision processes

- *Areas for Further Exploration:*
  - Using race as proxy for genetic markers (e.g., APOL1)

- *Resistance to Chance:*
  - Most professional societies expressed some level of consensus, some resisted to revisiting race-based clinical algorithms in their field (e.g., FRAX and STS operative risk calculator)

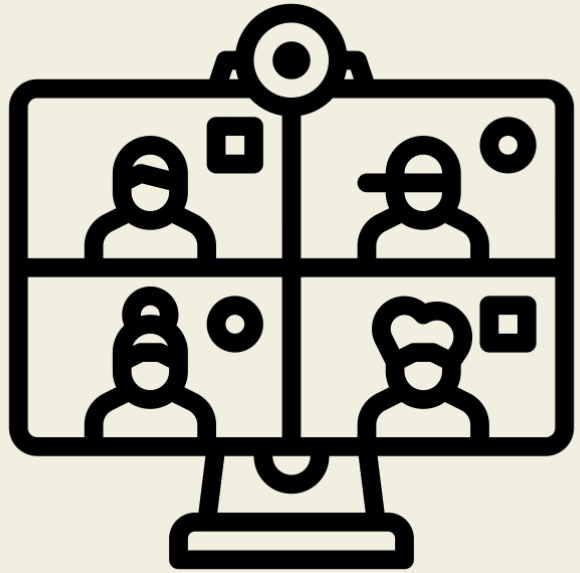
Discussion and Q&A

We'll reconvene in 5 minutes

Breakout Groups by Clinical Algorithm

Facilitators:

- eGFR - Dr. Sophia Kostelanetz
- VBAC - Drs. Michelle Morse & Tara Stein
- PFT - Dr. Duncan Maru



To join breakout rooms:

- When prompted, hover your pointer over the number to the right of breakout room you wish to join, click **Join**, then confirm by clicking **Join**.

Report Out: Best Practices for Evaluation

1. *VBAC*

2. *PFT*

3. *eGFR*

***Next steps*:**

- CERCA meeting #4 will be **Friday, May 20th, 2022**
- Draft work plan (template to follow) **due on May 20th at 12pm EST**
- Final evaluation plan (template to follow) **due on July 22nd at 12pm EST (TBC)**
- ***Coming Soon:*** CERCA website!

Thank You!