Removing harmful race-based clinical algorithms: A toolkit



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NYC Health Department/Coalition to End Racism in Clinical Algorithms (CERCA)

- Health Department Launches Coalition to Confront Racism in Medical Algorithms. (2021). **Press release.**
- Inaugural NYC Anti-Racism in Medical Education Symposium 2023 Recap. (2023).
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- <u>Keynote Presentation Slides</u> and <u>Inaugural NYCAMES 2023 Keynote Presentation</u>. (2023). **NYC Health Department [video].**
- NYC Health's CERCA: Evaluating the Elimination of Race from eGFR Equations. Ahmed et al. NYC Health Department.
- NYC Health's CERCA: Evaluating the Elimination of Race from PFT Equations. Eisenstein et al. NYC Health Department.
- NYC Health's CERCA: Expanding, Evolving. Transforming Summary.
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- NYC Health's CERCA: Evaluating the Elimination of Race from VBAC Calculators.
 Bervell et al. NYC Health Department.
- NYC Health's CERCA: Homepage. NYC Health Department.
- NYC Health's CERCA: Inaugural report: Fall 2021-Summer 2022. NYC Health
 Department.
- NYC Health's CERCA: Vaginal Birth After Cesarean (VBAC): Race in VBAC. NYC Health Department. (2024). Patient education [video].
- Race to Justice Action Kit. NYC Health Department.
- Race to Justice Glossary. NYC Health Department.
- Vaginal Birth After Cesarean (VBAC): Akia's Story. NYC Health Department. (2024).
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- <u>Vaginal Birth After Cesarean (VBAC): Helena- A Midwife's Perspective</u>. NYC Health Department. (2024). **Patient education [video].**
- <u>Vaginal Birth After Cesarean (VBAC): Jennifer's Story</u>. NYC Health Department. (2024). **Patient education [video].**
- What Is a Vaginal Birth After Cesarean? NYC Health Department. **Patient** education.

Race and racism in the United States

- From Race-Based to Race-Conscious Medicine: How Anti-Racist Uprisings Call Us to Act. Cerdeña et al. (2020). **Research article.**
- How Structural Racism Works Racist Policies as a Root Cause of U.S. Racial



- Health Inequities. Bailey et al. (2021). Research article.
- Impact of Healthcare Algorithms on Racial and Ethnic Disparities in Health and Healthcare. U.S. Department of Health and Human Services. (2023). Government report.
- Left Out: Barriers to Health Equity for Rural and Underserved Communities.
 Committee on Ways and Means Majority U.S. House of Representatives (June 2020). Government report.

Race in clinical algorithms and medical practice

- AAPA Statement on Race and Racism. Fuentes et αl. (2019). Research article.
- Assessing Race and Ethnicity Data Quality Across Cancer Registries and EMRs in Two Hospitals. Caddock Lee *et al.* (2016). **Research article.**
- Barriers and Strategies for Recruitment of Racial and Ethnic Minorities:
 Perspectives from Neurological Clinical Research Coordinators. Haley et al. (2017).
 Research article.
- Clinical Algorithms with Race and Ethnicity. Database.
- <u>Fact vs. Fiction: Clinical Decision Support Tools and the (Mis)use of Race</u>.
 Committee on Ways and Means Majority U.S. House of Representatives.
 Government report.
- <u>Guidance for Unbiased Predictive Information for Healthcare Decision-Making and Equity (GUIDE): Considerations when Race May Be a Prognostic Factor</u>. Ladin *et al.* (2024). **Research article.**
- Hidden in Plain Sight Reconsidering the Use of Race Correction in Clinical Algorithms. Vyas et al. (2020). **Research article.**
- How Should Educators and Publishers Eliminate Racial Essentialism? Tsai, J. (2022). Research article.
- Impact of Healthcare Algorithms on Racial and Ethnic Disparities in Health and Healthcare. Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services. (2023). **Government report.**
- New AMA Policy Recognizes Racism as a Public Health Threat. American Medical Association. (2020). **Press release.**
- <u>Nondiscrimination in Health Programs and Activities</u>. Centers for Medicare & Medicaid Services. (2024). **Policy document.**
- Race-Based Algorithm Database. STAT News. (2024). Database.
- Spotlight on Health Equity: Racism and Medicine. Committee on Ways and Means Majority U.S. House of Representatives. Government report.

Racism and AI in healthcare

- Blueprint for an AI Bill of Rights: Making Automated Systems Work for the <u>American People</u>. White House Office of Science and Technology Policy. (2022).

 Government report.
- Considering Biased Data as Informative Artifacts in AI-Assisted Health Care. Ferryman et al. (2023). **Research article.**
- Settling the Score on Algorithmic Discrimination in Health Care. Ghassemi et αl.
 (2024). Research article.

Healing ARC

- Healing ARC: Inspiring Race-Conscious Collaborations that Eliminate Racism in Patient Care. Patient engagement.
- <u>Leveraging Clinical Decision Support for Racial Equity: A Sociotechnical Innovation</u>. Wispelwey *et al.* (2022). **Research article.**

Algorithm-specific resources

Kidney function (eGFR equation)

- A Unifying Approach for GFR Estimation: Recommendations of the NKF-ASN Task Force on Reassessing the Inclusion of Race in Diagnosing Kidney Disease. Delgado et al. (2021). Research article.
- Association of the Estimated Glomerular Filtration Rate With vs Without a Coefficient for Race With Time to Eligibility for Kidney Transplant. Zelnick et al. (2021). Research article.
- <u>Black Kidney Health Matters</u>. National Kidney Foundation. Patient education.
- Establish OPTN Requirement for Race-Neutral Estimated Glomerular Filtration Rate (eGFR) Calculations. Organ Procurement and Transplantation Network (OPTN). Government report.
- Changes to eGFR Calculation and What that Means for People Living with Kidney Disease. National Kidney Foundation. (2021). **Patient education.**
- eGFR Calculator App. National Kidney Foundation. Clinical resource.
- eGFR Online Calculator. National Kidney Foundation. Clinical resource.
- Examining the Potential Impact of Race Multiplier Utilization in Estimated Glomerular Filtration Rate Calculation on African-American Care Outcomes. Ahmed et αl. (2021). **Research article.**
- <u>Family History and Kidney Diseases</u>. National Kidney Foundation. **Patient** <u>education</u>.



- <u>For Patients: FAQs About eGFR Waiting Time Modifications</u>. Organ Procurement and Transplantation Network (OPTN). **Patient education.**
- <u>For Professionals: FAQs About eGFR Waiting Time Modifications</u>. Organ Procurement and Transplantation Network (OPTN). **Clinical resource**.
- Genetics and Kidney Disease. National Kidney Foundation. Patient education.
- <u>Laboratory Implementation of the NKF-ASN Task Force Reassessing the Inclusion of Race in Diagnosing Kidney Diseases</u>. National Kidney Foundation. **Clinical resource.**
- Medical Bias Unveiled: A Path to Kidney Health Advocacy. National Kidney Foundation. (2023). Patient education.
- New Creatinine-and Cystatin C-Based Equations to Estimate GFR Without Race. Inker et al. (2021). **Research article.**
- Not by Muscle, Race or Ethnicity: Practical use of Cystatin C to Estimate GFR.
 National Kidney Foundation. (2021). Clinical resource.
- NYC Health's CERCA: Evaluating the Elimination of Race from eGFR Equations.
 Ahmed et al. NYC Health Department.
- Quantifying the Impact of the Change to Race-Neutral eGFR Calculations on Wait Time for African American Kidney Transplant Candidates: An Institutional Experience. Obayemi et al. (2024). Research article.
- Race, Genetic Ancestry, and Estimating Kidney Function in CKD. Hsu et αl. (2021).
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- Removing Race and Racism from Kidney Screenings. National Kidney Foundation.
 (2023). Patient education [video].
- <u>Social Determinants of Health and Chronic Kidney Disease</u>. National Kidney Foundation. (2023). **Patient education.**
- The Potential Impact of Race Multiplier Utilization in Estimated Glomerular Filtration Rate Calculation on African-American Care Outcomes. Ahmed et al. (2020). Research article.
- Waiting Time Modifications for Candidates Affected by Race-inclusive eGFR
 <u>Calculations</u>. Organ Procurement and Transplantation Network (OPTN). Clinical resource.
- What Black New Yorkers Need To Know About Kidney Health. National Kidney Foundation (2023). **Patient education [video].**
- What the New eGFR Calculation Means for Your Kidney Disease Diagnosis and <u>Treatment</u>. National Kidney Foundation. (2022). **Patient education.**

Pulmonary function tests (PFT)

- Addressing Race in Pulmonary Function Testing by Aligning Intent and Evidence With Practice and Perception. Bhakta et al. (2022). Research article.
- <u>Blue Briefing: The Accuracy of Race/Ethnicity-Based Equations for Spirometry Assessments</u>. American Thoracic Society. (2022). **Patient education [video].**
- NYC Health's CERCA: Evaluating the Elimination of Race from PFT Equations. Eisenstein et al. NYC Health Department.
- Prognostic Implications of Differences in Forced Vital Capacity in Black and White US adults: Findings from NHANES III with Long-term Mortality Follow-up. Gaffney et al. (2021). Research article.
- Race and Ethnicity in Pulmonary Function Test Interpretation: An Official American Thoracic Society Statement. Bhakta et al. (2023). Research article.
- Race, ethnicity and lung function: A brief history. Braun, L. (2015). **Research** article.
- Race/Ethnicity, Spirometry Reference Equations, and Prediction of Incident Clinical Events: The Multi-Ethnic Study of Atherosclerosis (MESA) Lung Study. Elmaleh-Sachs et αl. (2022). **Research article.**
- Race, Lung Function, and Long-Term Mortality in the National Health and Nutrition Examination Survey III. McCormack et al. (2022). Research article.
- Race-Specific and Race-Neutral Equations for Lung Function and Asthma Diagnosis in Black Children. Chang et αl. (2025). Research article.
- Reconsidering the Utility of Race-Specific Lung Function Prediction Equations. Baugh et αl. (2022). **Research article.**
- Removal of "Race Correction" in Pulmonary Function Tests Shows More Prevalent and Severe Lung Disease Among Black Patients. American Thoracic Society. (2021).
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- Removing Race from Lung Function Tests Could Benefit Millions of Black Americans. Anil Oza. (2024). **News article.**
- <u>Science Reflects History as Society Influences Science: Brief History of "Race,"</u>
 "Race Correction," and the Spirometer. Lujan et al. (2018). Research article.
- <u>Spirometric Reference Values from a Sample of the General U.S. Population</u>. Hankinson *et al.* (1999). **Research article.**
- The Impact of Race Correction on the Interpretation of Pulmonary Function Testing Among Black Patients. Moffett et al. (2021). Research article.
- The Use of Ethnically Specific Norms for Ventilatory Function in African-American and White Populations. Burney et αl. (2012). **Research article.**

Vaginal birth after caesarean (VBAC)

- ACOG Practice Bulletin No. 205: Vaginal Birth After Cesarean Delivery. American College of Obstetricians and Gynecologists (ACOG). (2019). Clinical resource.
- Challenging the Use of Race in the Vaginal Birth after Cesarean Section Calculator. Vyas et al. (2019). Research article.
- <u>FAQs about VBAC</u>. International Cesarean Awareness Network (ICAN). Patient education.
- Health Care Experiences of Pregnant, Birthing and Postnatal Women of Color at Risk for Preterm Birth. McLemore et al. (2018). **Research article.**
- <u>Limitations of Vaginal Birth After Cesarean Success Prediction</u>. Thornton, P. (2018).
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- <u>Misclassification of Cardiometabolic Health When Using Body Mass Index</u> <u>Categories in NHANES 2005-2012</u>. Tomiyama *et αl.* (2016). **Research article.**
- NYC Health's CERCA: Evaluating the Elimination of Race from VBAC Calculators.
 Bervell et al. NYC Health Department.
- Prediction of Vaginal Birth After Cesarean Delivery in Term Gestations: A
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- Racial/Ethnic Differences in Socioeconomic Status and Medical Correlates of Trial of Labor After Cesarean and Vaginal Birth After Cesarean. Attanasio et al. (2021).
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- Social and Structural Determinants of Health Inequities in Maternal Health. Crear-Perry et al. (2021). **Research article.**
- The Effects of Removing Race from the VBAC Calculator: Implications for Counseling. Faulkner et al. (2021). Research article.
- The Impact of Racism on Clinician Cognition, Behavior, and Clinical Decision Making. van Ryn et al. (2011). **Research article.**
- The Technocratic Model of Birth. Davis-Floyd, R.E. (1993). Book chapter.
- Vaginal Birth After Cesarean (VBAC): Akia's Story. NYC Health Department. (2024).
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- Vaginal Birth After Cesarean Delivery. Habak et al. (2023). Clinical resource.
- <u>Vaginal Birth After Cesarean (VBAC): Helena- A Midwife's Perspective</u>. NYC Health Department. (2024). **Patient education [video].**
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- What Is a Vaginal Birth After Cesarean? NYC Health Department. Patient



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- Why Equitable Access to Vaginal Birth Requires Abolition of Race-Based Medicine. Rubashkin, N. (2022). **Research article.**
- Women's Preference for Vaginal Birth After a First Delivery by Cesarean. Attanasio et al. (2019). **Research article.**

Race-based prescription of anti-hypertensive medications

- 2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults: Report from the Panel Members Appointed to the Eighth Joint National Committee (JNC 8). James et αl. (2014). Research article.
- 2017 ACC/AHA Guideline for the Prevention, Detection, Evaluation, and <u>Management of High Blood Pressure in Adults</u>. American College of Cardiology/American Heart Association (ACC/AHA). (2017). **Guideline.**
- 2020 International Society of Hypertension Global Hypertension Practice Guidelines. International Society of Hypertension (ISN). (2020). **Guideline.**
- <u>Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial</u> (<u>ALLHAT</u>). National Institutes of Health (NIH). (1994). **Research article.**
- The Self-Fulfilling Process of Clinical Race Correction: The Case of Eighth Joint National Committee Recommendations. Savage et al. (2023). Research article.
- The Slavery Hypertension Hypothesis: Dissemination and Appeal of a Modern Race Theory. Kaufman et al. (2003). **Research article.**