

# Toward rational conversation about race, health risk, and nursing



## How race correction affects risk assessment and treatment.

By Mijung Park, PhD, MPH, RN; Angela D. Alston, DNP, MPH, APRN, WHNP-BC, FNP-BC; and Linda Washington-Brown, PhD, EJD, APRN-C

**THE CONCEPT** of “race” has become increasingly controversial. Historically, many believed that racial categories reflected our genetic composition, making it a biological concept. Consequently, race has been accepted as a legitimate factor to consider in diagnosing and treating health conditions. These beliefs were supported by the emergence of modern biology and biological determinism. Disease distribution differences across diverse racial groups have been recognized, making race a focal point in explaining those differences.

More recently, race has been recognized as a socially constructed concept. Scholars challenge the conventional understanding of race as purely biological and question using race in healthcare. They argue that using a racial category as an attributing factor for undesirable health conditions may reinforce racism and that such attribution may not be scientifically warranted because association isn’t causation. The fact that a health condition is more prevalent in a certain racial group (association)

doesn’t necessarily mean that the racial group is biologically predisposed for the health condition (causation). Many of us believe that race identification is based firmly on biology, but it isn’t. As Dupré notes, no specific gene exists that can determine a person’s race. In most research studies, race classification is based on research participants’ self-identification. The most frequently used biological proxy of race is skin color, but many factors—such as sun exposure and medication—affect skin tones. In addition, racial differences found in epidemiological studies are more likely to reflect the *effects* of racism rather than race itself. The allostatic load (cumulative effects of chronic exposure to stress) associated with lifelong toxic stress, rather than genetic predisposition, may lead to health disparities.

### **Race and nursing assessment**

The debate about whether race is biological or social is one of the most contested topics in healthcare. (See *The case of a race-based*

*drug*.) Nurses and nurse practitioners are encouraged to assess a person's health risks systematically and to use established guidelines to support their clinical decisions. However, many clinical algorithms and guidelines include race as part of the risk assessment formula, a practice called "race correction." These adjustments, even if well intended, may lead to inaccurate assessments by over- or underestimating risks for certain racial groups.

In addition, healthcare relies on technology, such as artificial intelligence (AI) and data science, to diagnose disease and support clinical decisions quickly and accurately. However, the processes for estimating risks using these technologies are hidden from end users, leaving healthcare providers unaware of exactly how these factors are used to calculate individual risk. These automated, computational risk estimations frequently use existing data, which may include biased racial data.

### **Negative effects of race correction**

A strong case can be made about the potential negative consequences of using race as a distinctive category for estimating disease risk. However, in some rare cases, considering race may be justified. For example, considering race when examining how certain health conditions are distributed across different racial groups may help us document differential disease distribution at the population level. These cross-sectional associations, however, shouldn't be confused with causation and may not be appropriate to include in risk estimation or diagnoses. To illustrate the potential concerns associated with race correction, we selected five examples applicable to nursing.

#### **Sickle cell disease and Black Americans**

Sickle cell disease (SCD) is a hereditary red blood cell disorder caused by a genetic mutation. Although SCD can be found among populations in areas where malaria is prevalent (for example, in India, the Middle East, and the Mediterranean), it's long been associated with people of African descent. In 2019, according to the Centers for Disease Control and Prevention (CDC), SCD occurred in one out of every 365 Black American births, compared to one out of every 16,300 Hispanic-American births. De-

spite these statistics, the general public frequently associates SCD with Blacks only and are unaware that SCD can be found in other racial groups. Because genetic markers for SCD are currently available, all hospital-born babies are screened for SCD in the United States. However, non-Black infants who are born outside of hospitals may not have the screening because parents believe their baby isn't at risk.

#### **Racial correction in BMI for Asian descendants**

Historically, body mass index (BMI) has been used as a marker for total body fat and is known to be associated with the risk for conditions such as diabetes and cardiovascular disease. A BMI between 18.50 and 24.99 is considered normal. Using these standard cut-points, Asians have been considered to have lower rates of obesity. However, they experience higher rates of heart disease at a lower BMI, compared to their non-Asian counterparts. Studies show that Asians have increased fat accumulation even with a low BMI, so using the standard BMI to define overweight and obesity in this population may fail to identify those with increased cardiovascular risks. Consequently, in 2004, the World Health Organization recommended using a lower BMI cut-point for obesity for Asian groups.

The race correction for Asians increased BMI accuracy in predicting health conditions, but caution is warranted because "Asian" is a broad concept that denotes both race and ethnicity. It includes individuals from Far East Asia (Korea, China), Central Asia (Afghanistan, Uzbekistan), South Asia (India, Pakistan), South East Asia (Thailand, Philippines), and Western Asia (Iran, Saudi Arabia). Biological reasons may exist to explain unique body fat distribution among "Asians," but social, cultural, dietary, and environmental factors also may explain such phenomena.

Additional challenges exist for nurses using BMI embedded in electronic health records (EHRs). Because BMI calculation details in EHRs are hidden from end users, nurses and patients may not know if a BMI score is the result of race correction. Such

## The case of a race-based drug

ambiguity makes it difficult to confidently estimate one's BMI-associated health risk.

### Race as a risk factor for diabetes

Diabetes is a common and serious chronic health issue. In 2015, 9.4% of the U.S. population (30.3 million people) was estimated to have diabetes. According to the CDC, risk factors for type 2 diabetes include being Black, Hispanic/Latino, American Indian, Asian American, or Pacific Islander, representing almost all established racial categories that aren't White. However, due to the current demographic composition of the U.S. population, the absolute number of people with diabetes is the greatest among those who self-identify as White, making the practical utility of a risk factor that includes most non-White races questionable.

### Race correction in cardiovascular disease risk calculators for Black Americans

The high prevalence of cardiovascular disease in under-represented groups, such as Black Americans, is well documented. The general population has access to several web-based tools to estimate their heart disease risk. We examined the Heart Disease Risk Calculator by Mayo Foundation for Medical Education and Research and the American College of Cardiology/American Heart Association (ACC/AHA) Guideline on the Assessment of Cardiovascular Risk. Both tools gather demographic and behavioral information as well as clinical characteristics, and they use race correction but in slightly different ways. The Mayo calculator uses four categories for race (African American, Caucasian, Hispanic, and other), the ACC/AHA Guideline uses three racial categories (White, African American, and other). Using these tools, heart disease risks are estimated higher for those who identify themselves as African American. Systematically overestimating cardiovascular disease risk may lead to unnecessary treatment, and the variability in these tools can pose interpretation challenges for patients and clinicians.

### Race correction in pulmonary-function tests

Noninvasive pulmonary function tests (PFTs)—

In 2005, the U.S. Food and Drug Administration (FDA) approved BiDil (a combination of two generic drugs, isosorbide dinitrate and hydralazine) for treating heart failure in Black patients. It was marketed as the first medication for a specific racial group. The FDA approval sparked heated debates. Some, including established organizations such as the U.S. Black Congressional Caucus and the Association of Black Cardiologists, endorsed BiDil, arguing that it might address cardiac health disparities and the unique healthcare needs of Black communities. Others argued that by approving race as a treatment indication, the FDA endorsed the biological model of race, without any scientific basis. These same critics pointed out serious scientific issues with the design of the clinical trial and the interpretations of the study result, which were used to secure the FDA approval.

such as spirometry and plethysmography—measure lung capacity. In the United States, spirometry uses race correction for Black or Asian. When a technician indicates the patient's race at the beginning of the spirometry test, the computer algorithm adjusts the benchmark for the normal lung capacity 10% to 15% lower for Black patients and 4% to 6% for Asian patients. Such race correction is built into the software of the spirometer and hidden from end users. Established organizations, such as the CDC, endorse using race correction, but scholars continue to criticize the practice. The theory of differential lung capacity between Whites and other races dates back to the racist idea in the early 1800s that Whites have larger lung capacity than other races. Subsequently, epidemiological data have been used to justify these theories. However, the data supporting race correction have been interpreted without any consideration for socioeconomic and behavioral factors that are known to impact a person's lung function. For example, long-term exposure to air pollution is associated with impaired lung function. Race correction in PFTs may lead to inaccurate lung function estimations and consequent misclassification of disease severity and impairment.

### What should nurses and nurse practitioners do?

When performing risk assessments, start from an understanding that race as a concept isn't clearly defined and that most clinical data about race are based on individual self-identification. In addition, refrain from making assumptions about health risk based on skin tone or other physical characteristics.

Rather than relying on algorithm-based risk

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assessments exclusively, consider a multifaceted, individualized approach. When using disease risk scores, examine what factors are included in the calculations. If race correction is used, consider whether it's appropriate. For example, during an initial encounter, you may assume that a person self-identified as Native American may be at risk for diabetes because they're "Native American." This is race-based thinking. Instead, we recommend administering a risk-assessment tool to objectively evaluate the person's diabetes risk. The CDC Prediabetes Risk Test ([cdc.gov/diabetes/prevention/pdf/Prediabetes-Risk-Test-Final.pdf](https://www.cdc.gov/diabetes/prevention/pdf/Prediabetes-Risk-Test-Final.pdf)) doesn't include race correction. It calculates diabetes risk based on the individual's family history, age, gender, lifestyle, and health status. This risk test is easy to use, but it's not perfect. For example, it includes the patient's current weight but doesn't consider their history of weight change, so you should gather additional information such as recent weight changes, dietary habits, and access to healthier food. If risk scores are embedded in an EHR system, ask the information technology department how they're calculated.

If race correction is used, initiate a conversation with nurses, nurse practitioners, and physician colleagues to explore how to replace or modify the tool to ensure race correction isn't used.

Remain vigilant when using race as part of your clinical decision-making process or when formulating nursing diagnoses and plans. And find opportunities to conduct research into the accuracy and utility of assessment guidelines to ensure risk factors and treatment recommendation aren't clouded by racial bias. **AN**

To view a list of references, visit [myamericannurse.com/?p=71505](https://myamericannurse.com/?p=71505).

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#### Acknowledgement

This paper is based on Dr. Park's keynote speech during the 2016 ANA/SAMHSA Minority Fellowship Program Summer Research Institute held in Anchorage, Alaska, under the title "At the Intersection of the Biological and the Social."

#### Mitigating the threat of lost knowledge

One solution is to capture this key knowledge through digital storytelling or video. Clinical narratives provide an opportunity to illuminate tacit knowledge and offer another strategy to enhance expertise. These narratives frequently are used to augment learning among students, but they also can be used to transfer knowledge.

#### Structural knowledge

Structural knowledge consists of processes, tools, and routines. Experts possess many techniques for dealing with a variety of situations. However, these techniques may not be formal-

ized or documented. According to the *Workplace Knowledge and Productivity Report*, a survey of more than 1,000 employees conducted by Panopto (a video-sharing company for business and education) found that 60% of employees lose an average of 5 hours per week looking for information that hasn't been formally documented. Structural knowledge can be captured and transferred via knowledge mapping, knowledge audits, and structured interviews. (See *Mapping and auditing knowledge*.)

#### Take a strategic approach

Healthcare organizations and nurses are rich in knowledge. The loss of expert knowledge through turnover and retirement is widespread. Too frequently, healthcare organizations underestimate the costs associated with the loss of expert nurses' knowledge. Taking a strategic approach to knowledge transfer can help manage the risks of lost knowledge by reducing costly surprises. **AN**

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## Mapping and auditing knowledge

Knowledge mapping and auditing can be used to identify, collect, and review critical knowledge.

- **Knowledge maps** are visual representations of where an organization's critical knowledge can be found, and they offer insight into strengths and weaknesses. Engineering companies use them to locate expertise and develop mid-career employees into experts.
- **Knowledge audits** are well-defined technical reports that identify and capture key knowledge. They can be useful tools for gathering critical information that expert nurses don't perceive as important but may help a unit or organization in the long term.