

# Taking Racial and Ethnic Differences into Account When Managing Bone Health.

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The global coronavirus disease 2019 (COVID-19) pandemic has resulted in a disproportionate number of infections, hospitalizations, and fatalities among communities of color. (1) A backlash against racism in the United States has been sparked by events over the past 18 months, in addition to an increase in anti-Asian xenophobia and social justice demonstrations. Due to the regrettable history of racism in the medical sector, hospitals and other organizations are being forced to look for signs of bias in their own rules and procedures. The application of race and ethnicity to clinical decision-making is being examined in this context. (3) A wide range of factors, such as socioeconomic position, health practices, genetics, and access to medical treatment, affect health outcomes.

The circumstances in which people live, learn, and work are known as social determinants of health, and although the relationships between these variables are complicated, it is evident that these factors have a significant role in health results. (4) There are numerous obstacles that surround the use of race and ethnicity into therapeutic algorithms. Although it's a frequent misconception that racial inequalities in health outcomes are a reflection of hereditary or biological differences, race is a social construct, and systematic racism may have more of an impact. Furthermore, the Office of Management and Budget's standardization of broad racial and ethnic categories aggregates varied subgroups and can conceal significant disparities within these populations.

What part do race and ethnicity play in maintaining bone health? The Fracture Risk Assessment Tool (FRAX; <https://www.sheffield.ac.uk/FRAX/>) is a widely used clinical calculator. gives the 10-year odds of a major osteoporotic fracture or a hip fracture based on clinical risk factors and optional foot

mineral density (BMD) (BMD).5. FRAX offers 73 nation-specific models in addition to ethnicity-specific models in the US, Singapore, South Africa, and Africa. These models are created using algorithms derived from population-based cohorts in Europe, North America, Asia, and Australia. (6) Based on statistics showing that white, Hispanic, black, and Asian people had different fracture rates while having similar BMD, race/ethnicity-specific probabilities are provided for these groups in the United States. (7) Black, Hispanic, and Asian women receive reduced fracture risk estimates from the FRAX algorithm, raising concerns about the possibility of delaying osteoporosis treatment. (3) However, considering variations in the frequency of atypical femur fractures, an uncommon side effect of long-term Lower risk estimates for bisphosphonate use across racial and ethnic groups may effectively prevent overtreatment. (8) It should be noted that the identification of health disparities in the treatment of osteoporosis has been made possible by FRAX risk assessments. (6) It is evident that solid data are required to address these intricate problems, and Noel and colleagues' review of racial and ethnic differences in bone health, published in this issue of JBMR, provides an up-to-date assessment of the state of the field.

The data on variations in bone mineral density (BMD), fracture rates, fracture outcomes, and osteoporosis management among racial and ethnic groups is examined by the authors in the US. All of these studies show that compared to non-Hispanic white (NHW) people, black adults have better BMD, lower rates of fracture, and a lower prevalence of osteoporosis. While overall osteoporosis screening rates in the US are below ideal levels, treatment and outcome differences between Black and NHW adults are evident. Limited research suggests that Asian people had lower bone mineral density (BMD), a higher prevalence of osteoporosis, and lower overall fracture rates when compared to non-white adults. Conversely, even more limited data presents contradictory findings for BMD, osteoporosis, and fractures in Hispanic adults. (9) The necessity for additional research is arguably the most significant lesson to be learned from this review. Given that age and time can affect how different populations' BMD and fracture risk are, The authors stress the need of aligning study design and methodology as well as the necessity of large-scale longitudinal population-based investigations. For Asian and Hispanic populations in particular, data is required, and it should be broken down into subgroups according to their place of origin. The US population will be mostly driven by

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migration by 2030, and by 2060, nearly one in five people living in the country will be foreign-born.(10) Instruction on how to take into account the patient's place of origin and length of stay in the US when calculating fracture risk will be required for providers.(7) Depending on her place of origin or US ethnic group, the fracture risk probability for a 65-year-old woman with a prior fracture and a cervical neck BMD T score of less than 2.0 vary (Fig. 1). For US non-Hispanic white women, the 10-year risk of hip fracture is 2.7%; for US 1.5% of US Hispanic and Asian women are black, and 1.5% are Asian. However, the estimates of fracture risk for women in Asian countries—apart from the Philippines—are greater. A lady in Taiwan, Uzbekistan, or Singapore would be over the 3% threshold for thinking about getting pharmaceutical therapy. Additionally, women from Latin American countries have different fracture risks than women from other US Hispanic females. While fracture risks for black women in the United States are comparable to those of women in Zimbabwe and South Africa, FRAX estimations are available for fairly small number of African nations. The fact that immigrant health results in the US probably vary over time only serves to muddle things further. Lastly, the US Census for 2020 showed that although the number of people who identify as multiracial has increased by 276% since 2010, clinical algorithms do not take this into consideration. The ASBMR recently formed a task force to reevaluate the inclusion of race in determining the risk of bone fracture, which is very encouraging news given the complexity of the issue. What steps can researchers and providers take in the meantime to reduce inequalities in the way bone health is managed? Noel and associates (9) provide a number of crucial actions, such as patient education to raise public awareness of osteoporosis and fracture risk, as well as provider education on osteoporosis screening and treatment from a culturally sensitive standpoint. Increased efforts are needed to diversify the workforce of physicians and researchers, as racial and ethnic provider-patient Harmony has the potential to enhance patient contentment, compliance, and even medical results. In order to give all of our patients compassionate and equitable care, it will be crucial to address these problems.

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