Karlamangla, Arun S., Burnett-Bowie, Sherri-Ann M., Crandall, Carolyn J., “Bone Health during the Menopause Transition and Beyond”

The incidence of low-trauma fracture varies substantially across race/ethnicity groups, both nationally and worldwide. Low-trauma fractures of the hip for instance, which are a major cause of morbidity, physical disability, and early mortality in older Americans, are considerably more common in White women than in Asian, Black, and Hispanic women in the US. Although low bone mineral density (BMD) by dual energy X-ray absorptiometry (DXA) is the most reliable predictor of hip fracture risk within race/ethnicity groups, BMD does not account for the differences in fracture risk between race/ ethnicity groups. Japanese women for example, who have lower risk of hip fracture than White women, also have lower BMD on average than White women. On the other hand, Black women have fewer fractures than White women, even after controlling for differences in BMD.

During the 3-year-long rapid bone loss phase in the transmenopause, the average rate of decline in BMD in White women was 2.5% per year in the lumbar spine and 1.8% per year in the femoral neck. Prior to the transmenopause, there was no appreciable change in BMD at either bone site. Adjusted for BMI, Black women had smaller percentage losses at both bone sites (2.2% per year in the spine, 1.4% in the femoral neck) and Japanese and Chinese women had larger losses at the femoral neck (2.1% and 2.2% per year, respectively).