Precision medicine is reshaping the debate over ‘race’

Precision medicine is an emerging field with immense potential for better understanding of diseases and improved treatment outcomes.

Its focus: patterns of human genetic variation in populations and individuals—and how such patterns influence disease pathology and treatment.

The field rejects the “one size fits all” approach to understanding disease, aspiring to develop tailored therapies that optimize treatment efficacy.

It’s a promising but fledgling field that faces numerous challenges, both scientific and practical.

But one challenge has not been fully appreciated: the lack of genetic diversity in research and clinical studies.

To date, most of the genetic studies that researchers draw on in the context of precision medicine have been conducted on individuals represented by European reference samples, what is commonly termed “European ancestry.”

In 2009, 96% of genome-wide association studies (GWAS) participants were of European descent, with only 0.57% of samples consisting of individuals allied with reference samples from across the African continent [“African ancestry”],

Whereas genetic ancestry is a measurable biological parameter, race is a social construct that has often been labeled biological.

Indeed, race is the product of historical, social, and political processes and not a “natural” or biological division of human variation—an understanding that much of the scientific community has started to embrace.

Nevertheless, race remains commonly reported as a surrogate marker for genetic ancestry and diversity in biomedicine based on the assumption that a socially defined category serves sufficiently as a proxy for genetic ancestry and thus genetic diversity.

The inadequacy of the race concept in genetic studies is further heightened by the fact that there is no consensus on the definitions of race categories.

This is an excerpt. Read the original post here.