THE PRECISION MEDICINE INITIATIVE

Biomarkers

Predictive

Diagnostics

Prognostics

Risk
Biomarkers, including Genomic Variants, are a Key Component to Precision Medicine

Sample → DNA → Genetic Test Results

- Risk
- Diagnosis
- Prognosis
- Predict Treatment
- Monitor Disease
Tempered Excitement for Precision Medicine

Why personalized medicine will fail if we stay the course

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Abstract

Genomic science and associated technological insights that are transforming the delivery of healthcare. However, these insights inform us that historically, rare and common genetic variations are not equally distributed across the genetic makeup of today’s patients. In order for personalized medicine to benefit global populations, we will need to know how different parts of the world influence health. This article emphasizes the importance of increasing ethnic and racial diversity in studies, highlights areas of opportunity for improving outcomes of care for different populations, and provides examples of successful strategies for genomics research.
European Cohorts 71%

Non-European Cohorts 29%

Current Genomics Research COHORTS Across Databases*

Genetics and Genomics Research:
A View from Databases

CURRENT WORLD POPULATION

European 15%
Non-European 85%

Current Genomics Research COHORTS Across Databases*

European Cohorts 71%

Non-European Cohorts 29%

Current Genomics Research COHORTS Across Databases*

European Cohorts 54%

URM Cohorts 6%
Asian Cohorts 16%
Ancestry Not Listed 21%
Mixed Cohorts 3%

*Databases included are the database of genotypes and phenotypes (dbGaP) and the Genome Wide Association Study Catalogue (GWAS catalogue).

What about Precision Medicine and Minority Health?