

HEIM: Health Equity Informative Metrics

Framework for Evaluating Alignment Between Genomic Research Output and Global Disease Burden




A Core Formulation

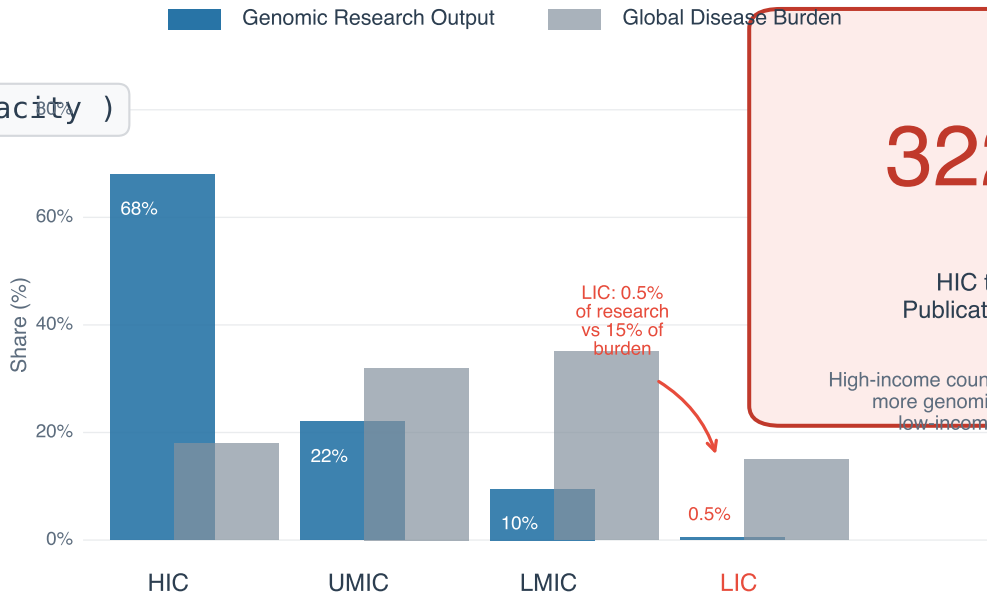
B Distribution of Genomic Clinical Studies by Income Group

C Key Findings

Equity Alignment Score (EAS)

$$EAS = f(\text{Gap}, \text{Burden}, \text{Capacity})$$

-  **Gap Severity**
Mismatch between research output and disease burden
-  **Burden Miss**
High-burden diseases with little or no genomic research coverage
-  **Capacity Penalty**
Underutilization of research capacity in underrepresented settings



322:1

HIC to LIC
Publication Ratio

High-income countries produce 322x more genomic studies than low income countries

D Summary: WHO Genomic Clinical Studies (1990–2024)

6,513

Total Studies

70%

Top 10 Countries

68%

High-Income Countries

<0.5%

Low-Income Countries