

Measuring Inequities in Health Equity discourse using Large Language Models

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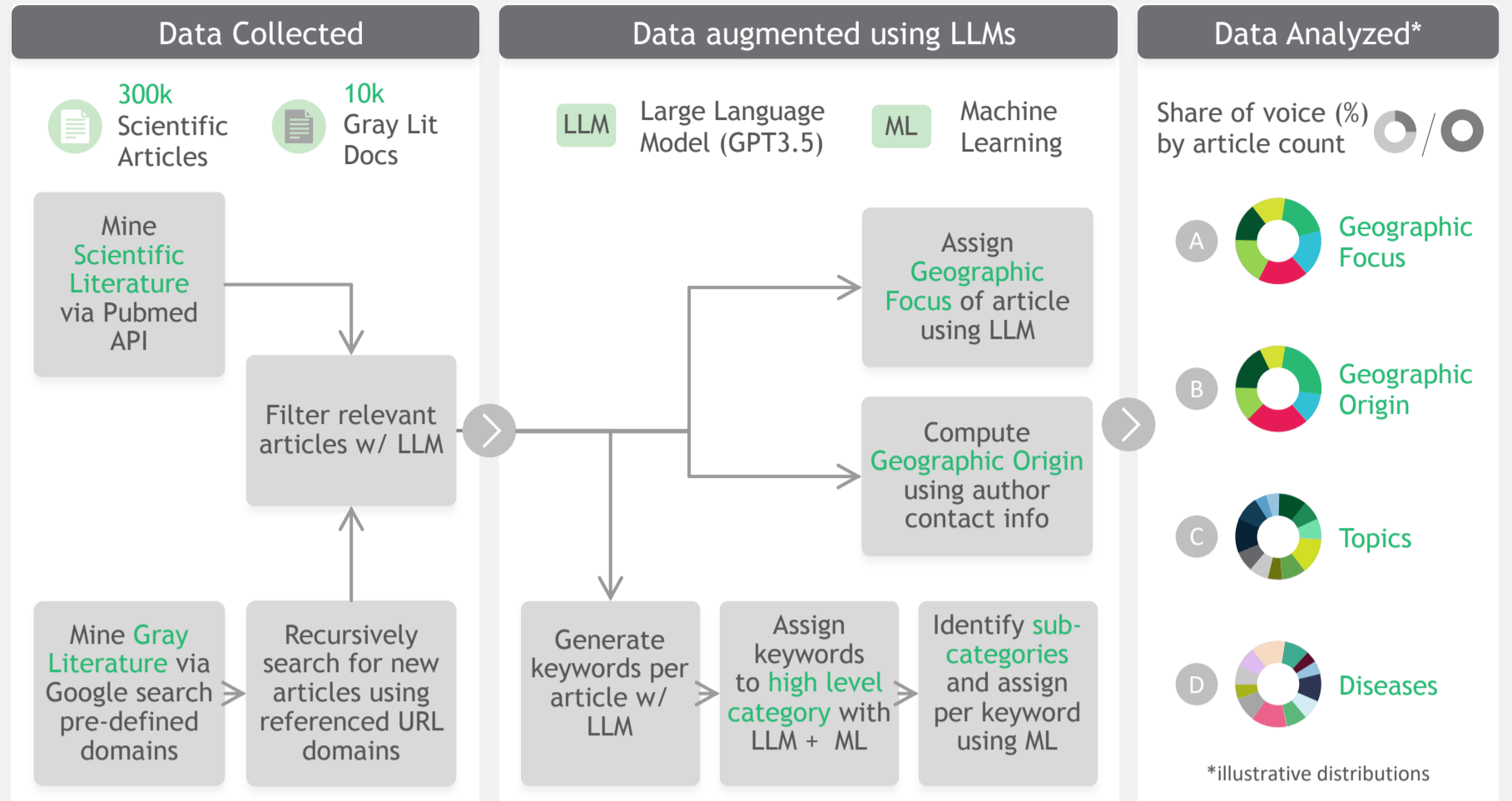
Background

- Health Equity (HE) is as a critical objective for global health efforts; much attention is focused but is resource allocation matching the global needs?
- HE discourse covers disparities in health across socio-demographic & -economic classes, societal, health system, & environmental determinants
- Achieving HE requires a balanced view across its disparities where skews can indicate over/under-representation and need for inclusive approaches
- Recent advances in AI and Large Language Models (LLMs) allow more comprehensive and objective analysis which were previously not feasible

Objectives

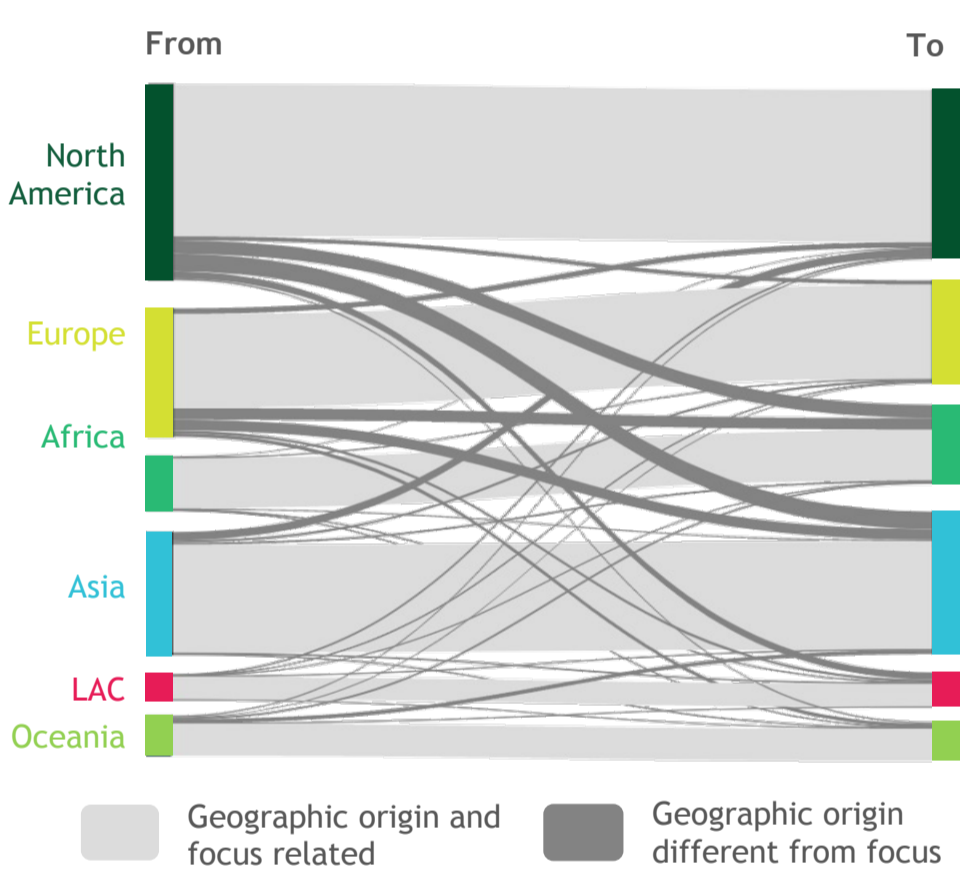
- Use latest advancements in LLMs to exhaustively and accurately map and analyze the HE research literature landscape
- Develop a scalable methodology able to assess the topics of interest, the geographic focus and origin of the research, and the diseases studied
- Highlight key focal points and connections in the present discourse, help identify under-researched topics
- For the purposes of the present study and to show proof of concept of our work we have constrained our search to English language only
- We hope this work can be used as a co-pilot to researchers and policy makers given it is easy to upgrade and reuse

Methodology

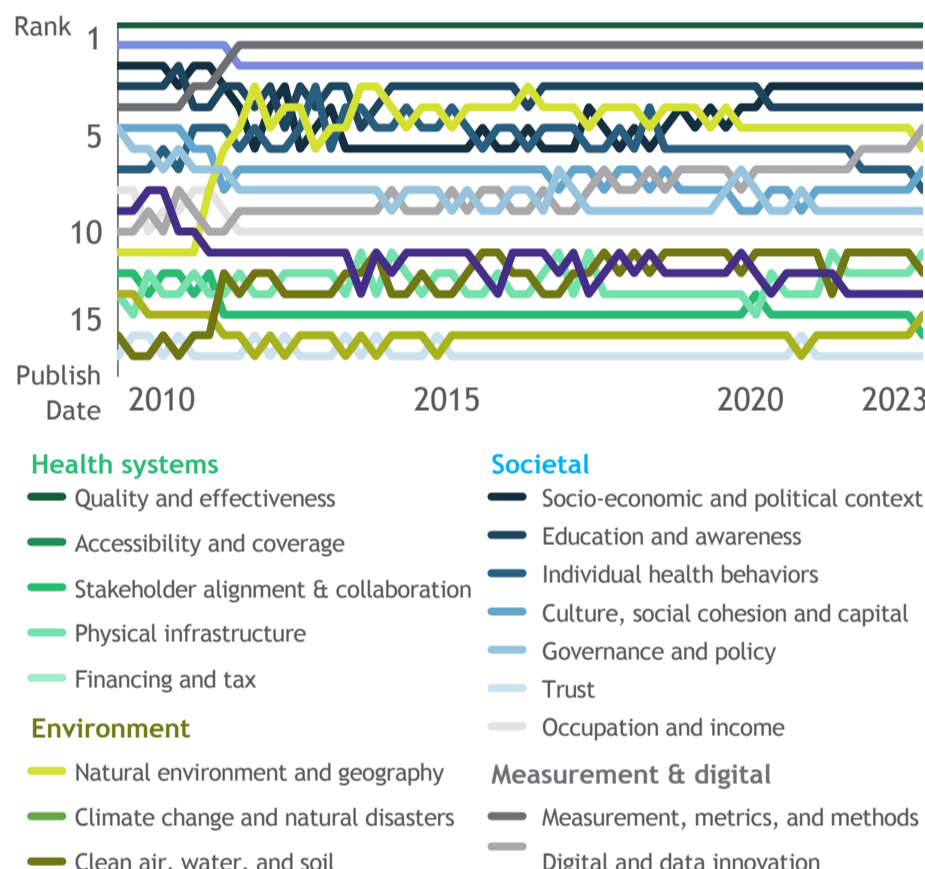


Results

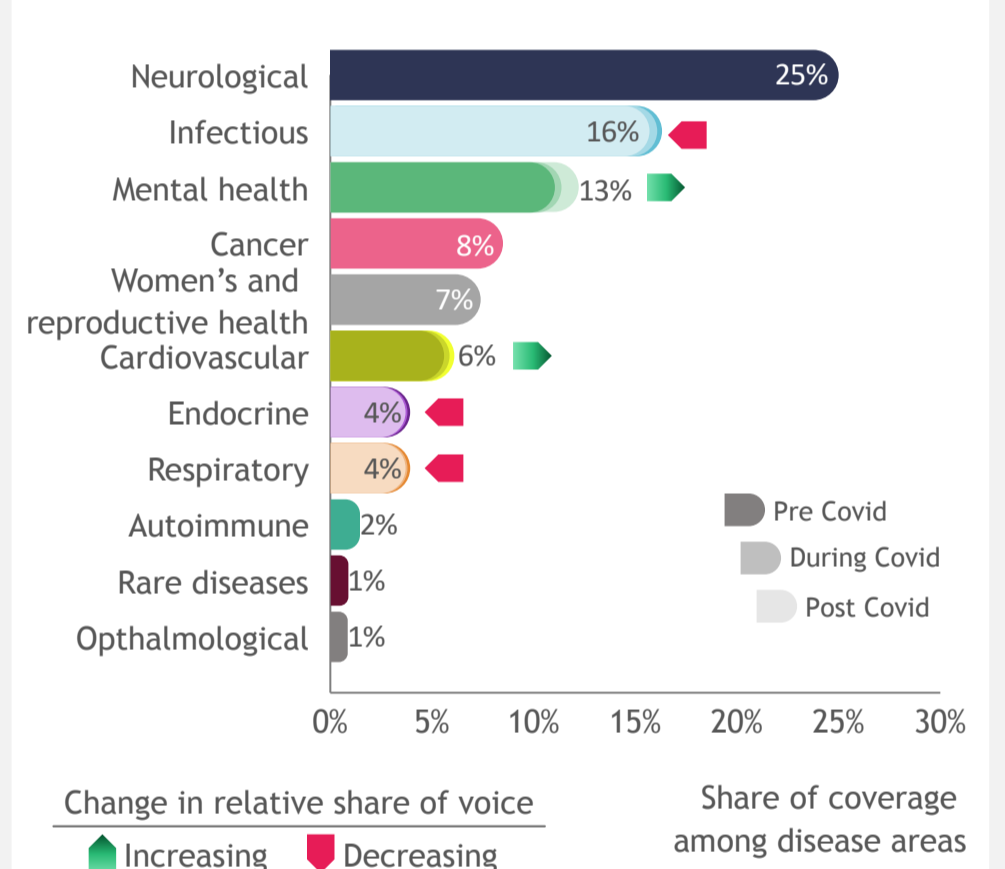
Share of voice by geography origin and focus



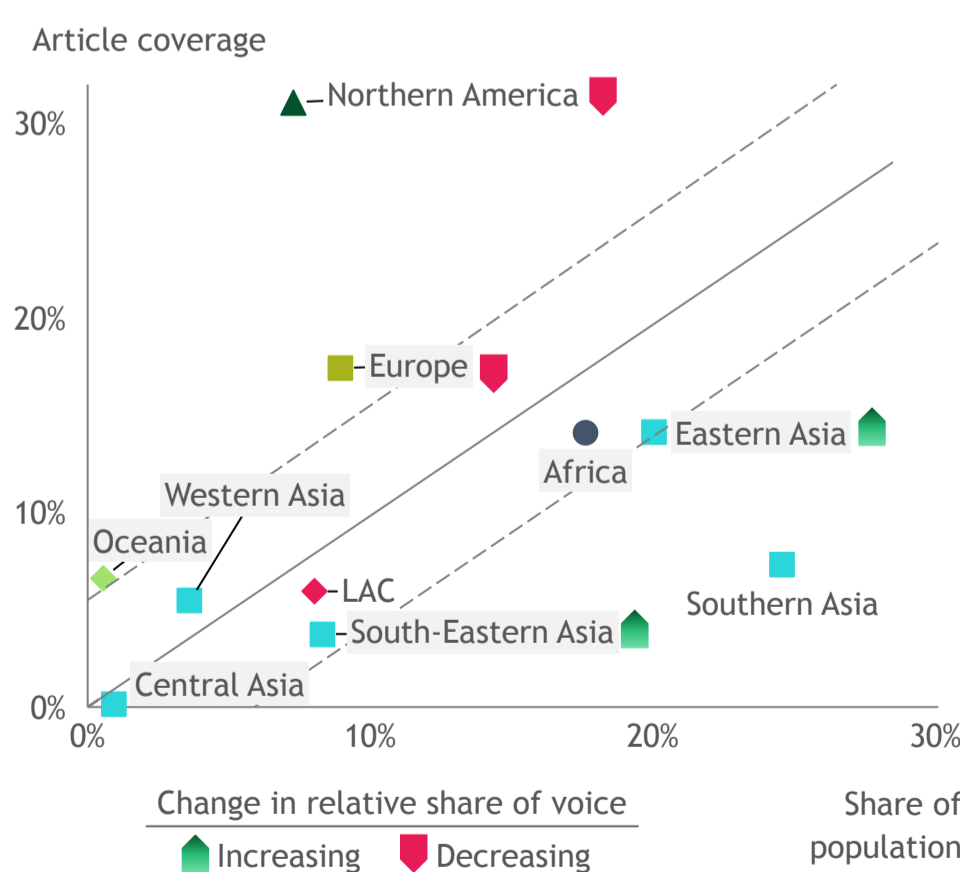
Long-term trends in topics of focus globally



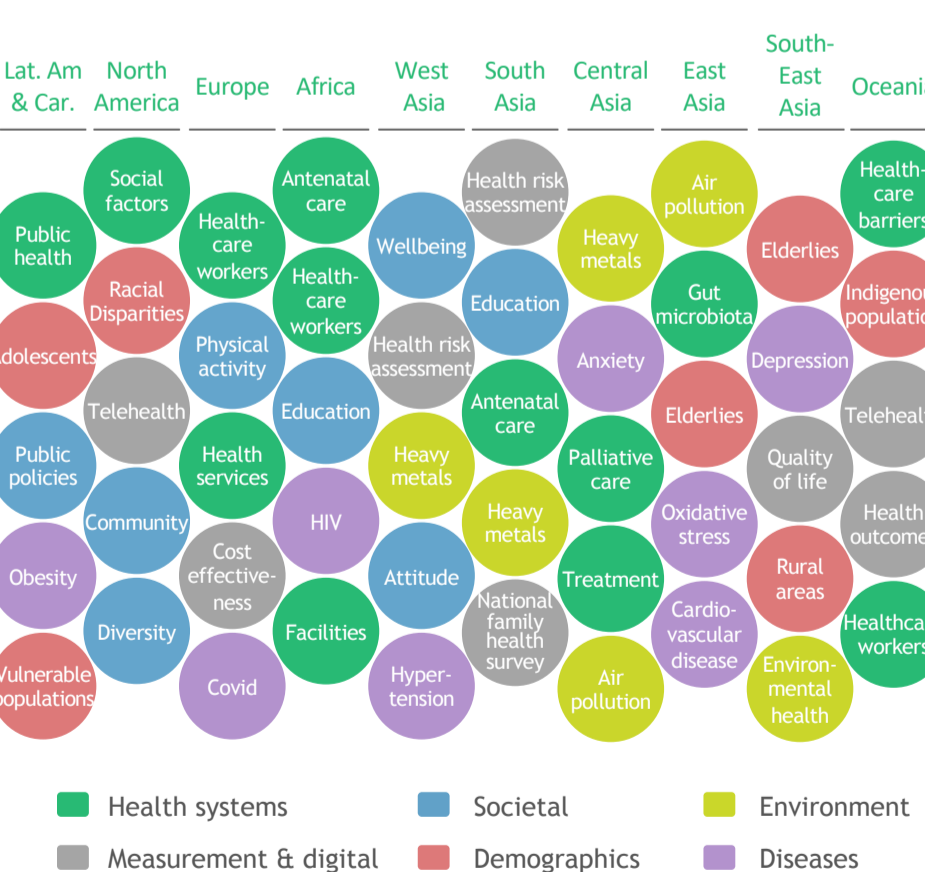
Share of voice by disease pre and post Covid



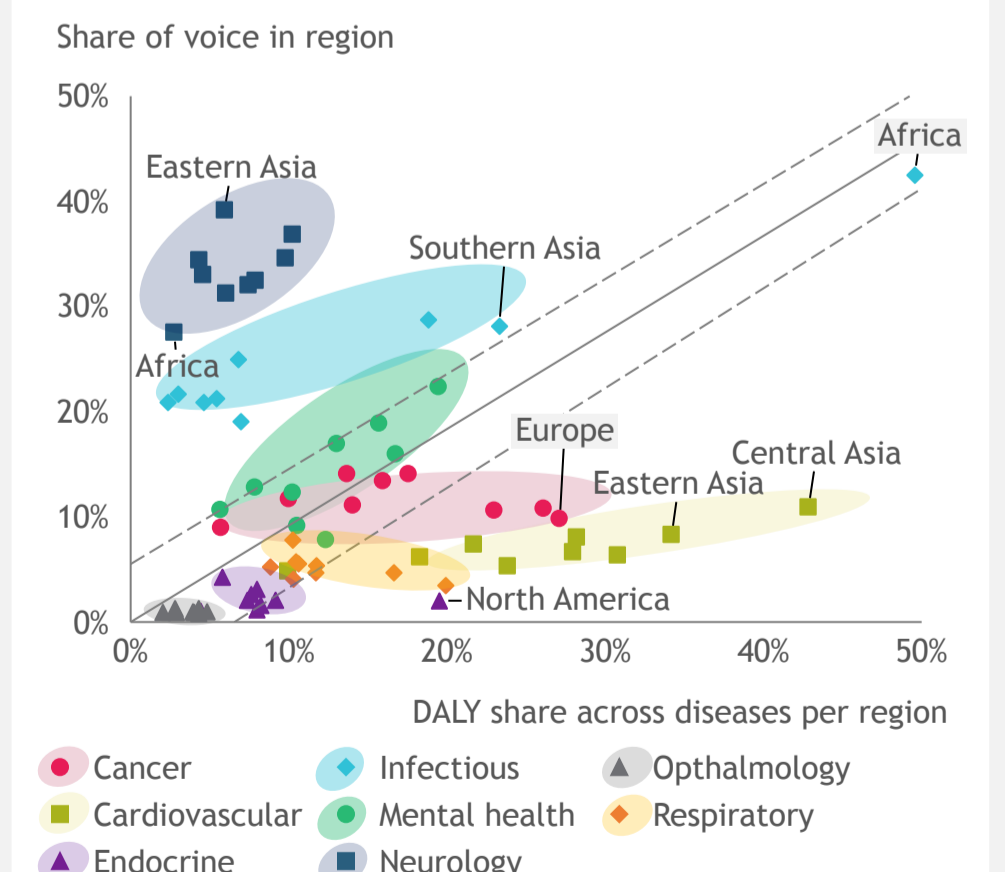
Share of voice by geography focus versus population



Regional topics of focus since 2022



Share of regional voice by disease versus DALY



Differing intensity of focus across region ...

- Researchers tend to focus on their own geography
- Asia and Africa receive comparable share of international focus
- NA gets highest focus given most research originates there ...
- ... while Southern Asia gets less than its fair share of focus
- Asia is catching up in the last decade particularly East Asia

... with each region focusing on different topics and ...

- Topical differences: Europe focuses on health systems; N. America and LAC on societal factors; Asian regions focus on environment
- Demographic differences: N. America focuses on racial disparities; Oceania on indigenous populations; SE. and E. Asia on elderly populations, and LAC on adolescents

... different diseases

- Disease areas are studied to a different extend by regions ...
- ... but generally representative of their regional burden (DALY)
- Cancer and respiratory diseases are underrepresented ...
- ... while Neurology and infectious diseases are overrepresented
- Mental health research significantly increased during/post covid

Conclusions

- HE research remains a dynamic landscape with shifting priorities, regional specificity, and increasing voice of Asia
- Disease areas are well represented relative to their geographic burden although cancer and respiratory disease remain understudied
- Topical trends across geographies reveal cultural and societal priorities that reflect the region's specific focus
- We developed an LLM based tool that can repeatedly map HE literature to better understand the research and funding landscape
- BCG as a partner in global health seeks collaborators to use this work and build on it ...
- ... with the aim to help with funding decisions, global health priority setting and research focus



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