UCLA Samueli School of Engineering

# INEQUALITIES IN HEALTH TECHNOLOGY DEVELOPMENT: A TALE OF TWO DISEASES

**Panel: Multidisciplinary Perspectives on Appropriate Technology**

**International Economic Association | January 31, 2023**

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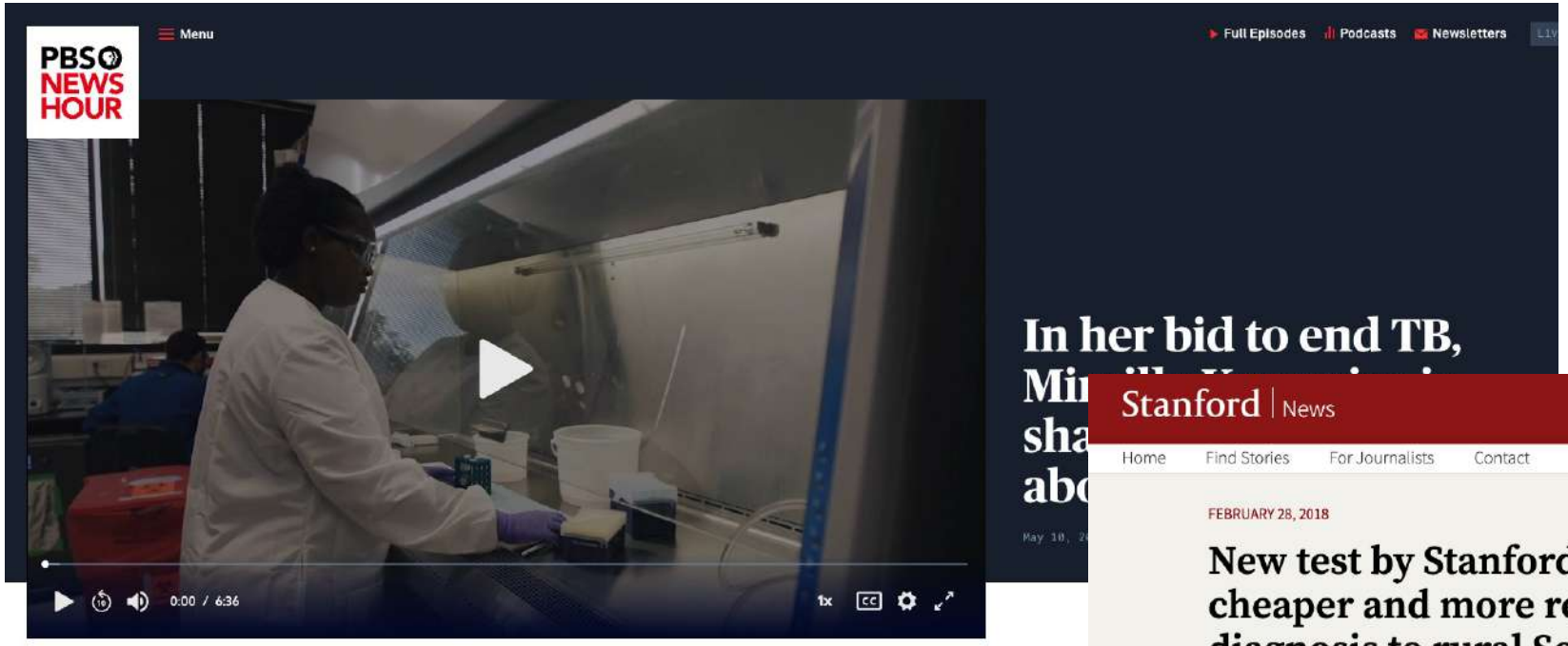
# I develop diagnostic technologies against infectious diseases, including tuberculosis (TB)





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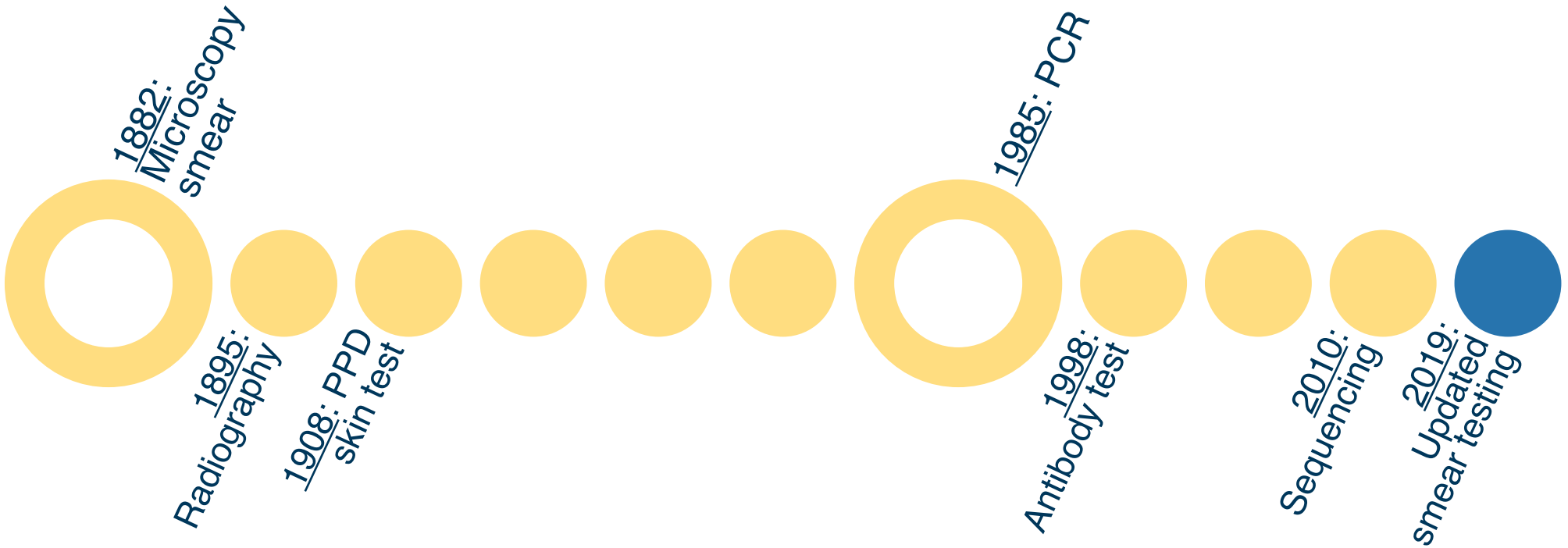
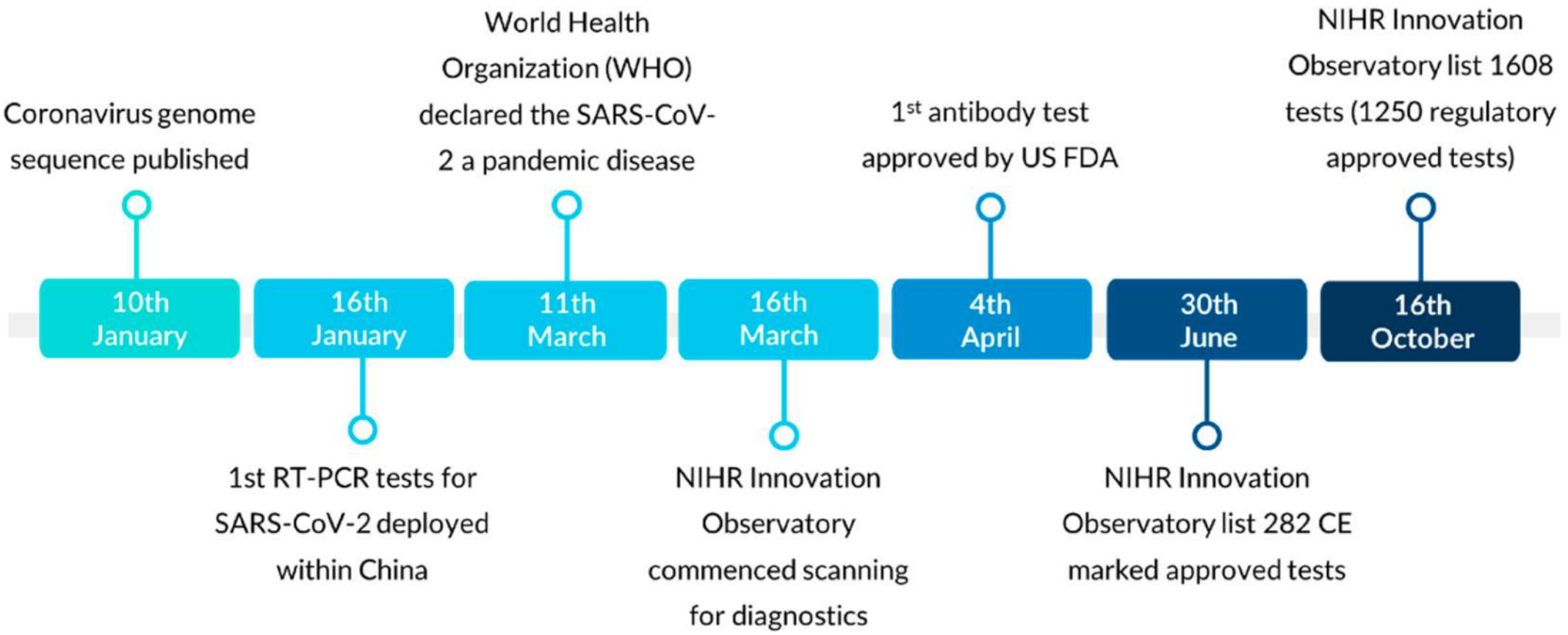
https://www.pbs.org/newshour/show/in-her-bid-to-end-tb-mireille-kam

# TB diagnostic technology development span over a century




Acharya B, *et. al.,* Advances in diagnosis of Tuberculosis: an update into molecular diagnosis of Mycobacterium tuberculosis. Mol Biol Rep. 2020 May;47(5):4065-4075. PMID: 32248381.

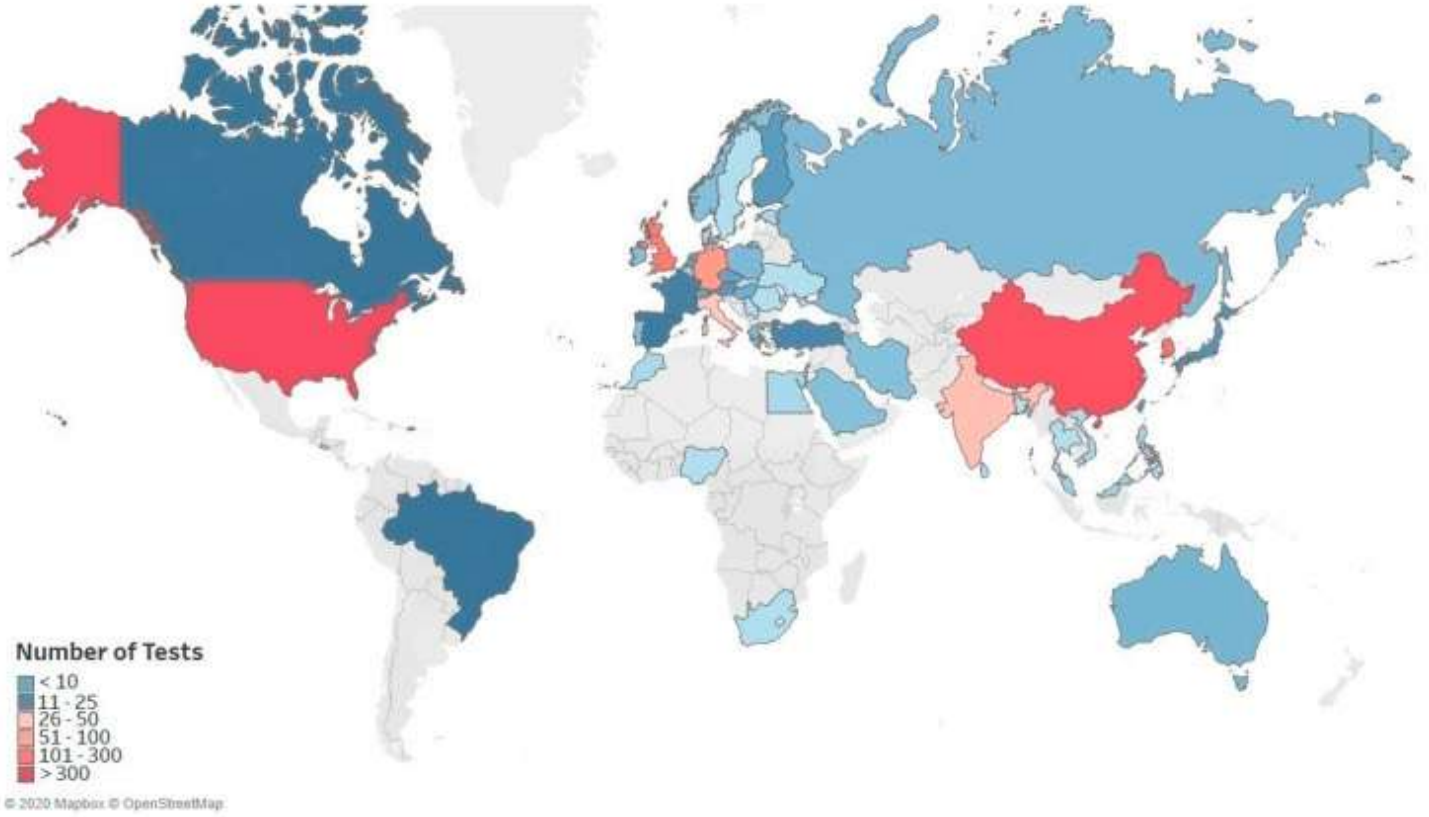
# Hundreds of Covid-19 diagnostic tests available within months



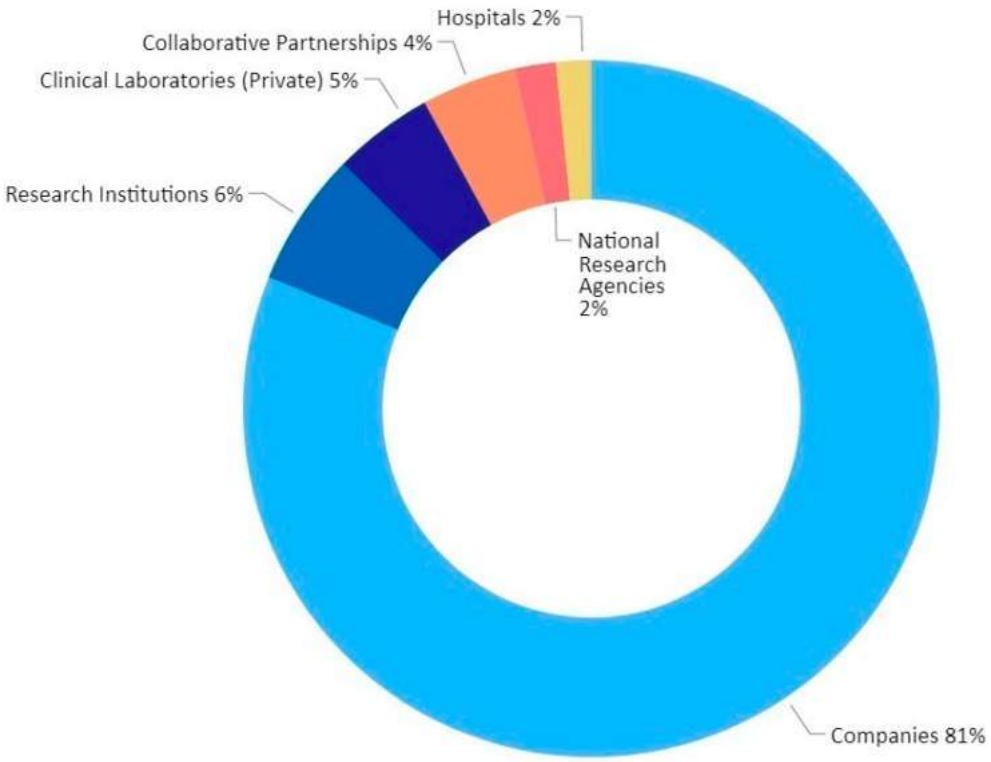



Oyewole AO, *et. al.*, COVID-19 Impact on Diagnostic Innovations: Emerging Trends and Implications. Diagnostics (Basel). 2021 Jan 27;11(2):182. PMID: 33513988; PMCID: PMC7912626.

# Global SARS-CoV-2 diagnostics landscape is primarily led by corporations in high income countries




Geographical distribution

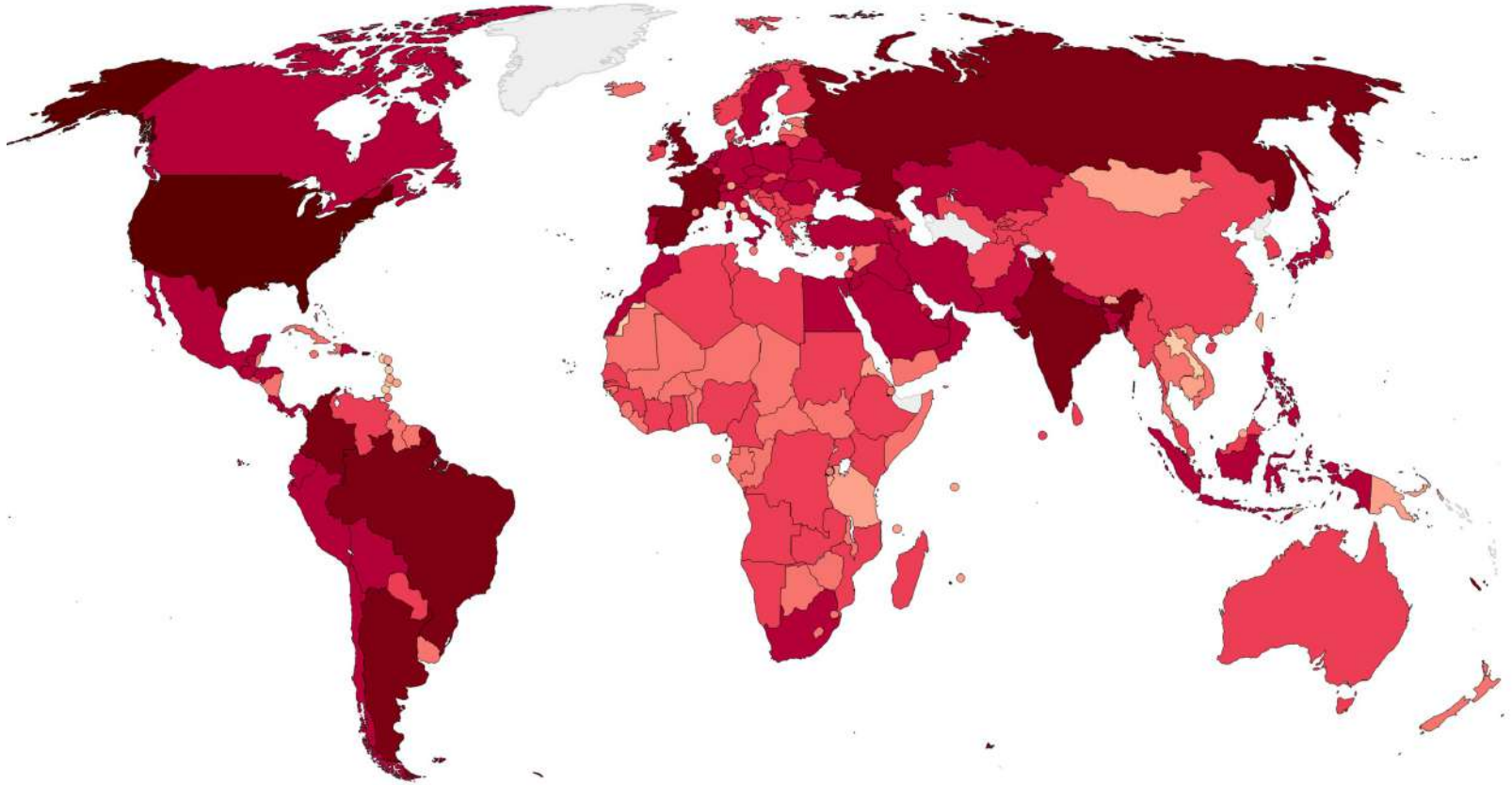



Distribution by entity type



Oyewole AO, *et. al.*, COVID-19 Impact on Diagnostic Innovations: Emerging Trends and Implications. Diagnostics (Basel). 2021 Jan 27;11(2):182. PMID: 33513988; PMCID: PMC7912626.

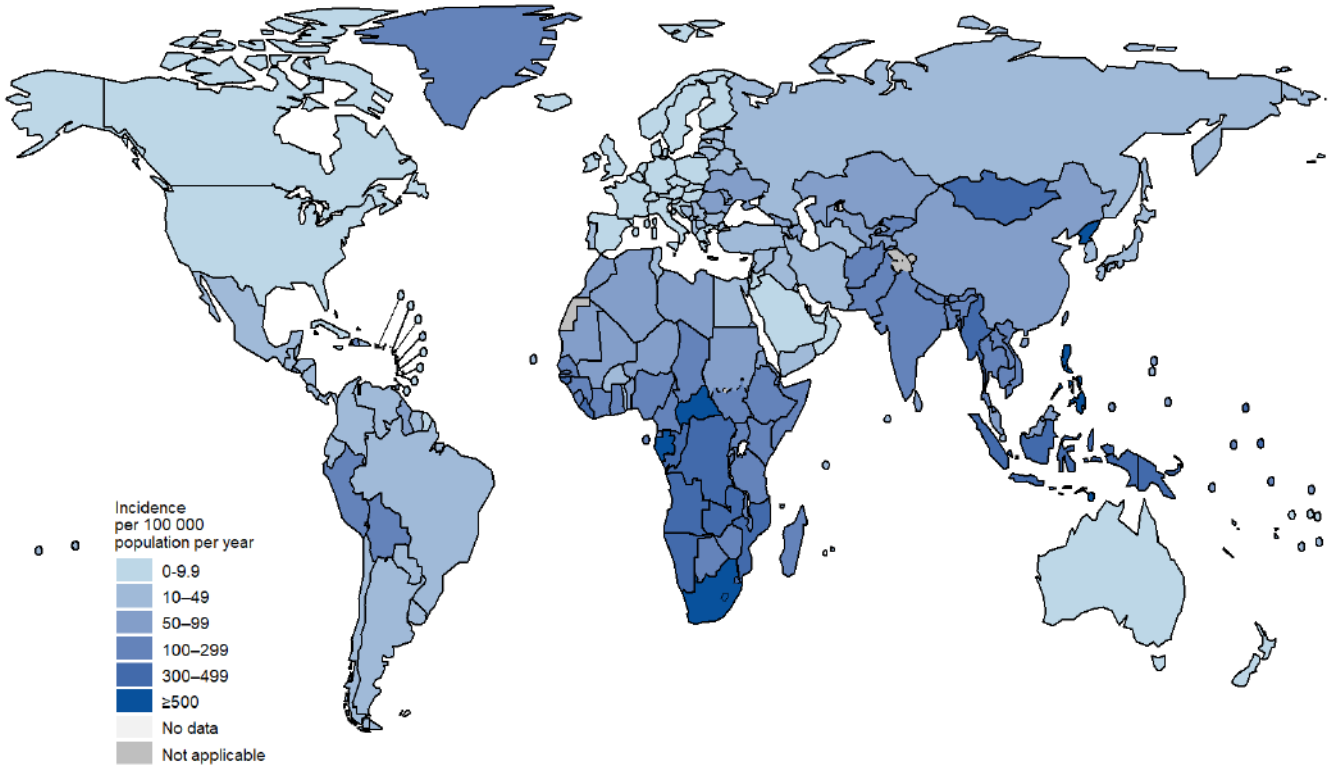
# Majority of Covid-19 cases were registered in the global north



Distribution of Covid-19 cases (Last updated January 31, 2023)
Average of ~ 2M deaths per year since 2020

https://www.bloomberg.com/graphics/2020-coronavirus-cases-world-map/

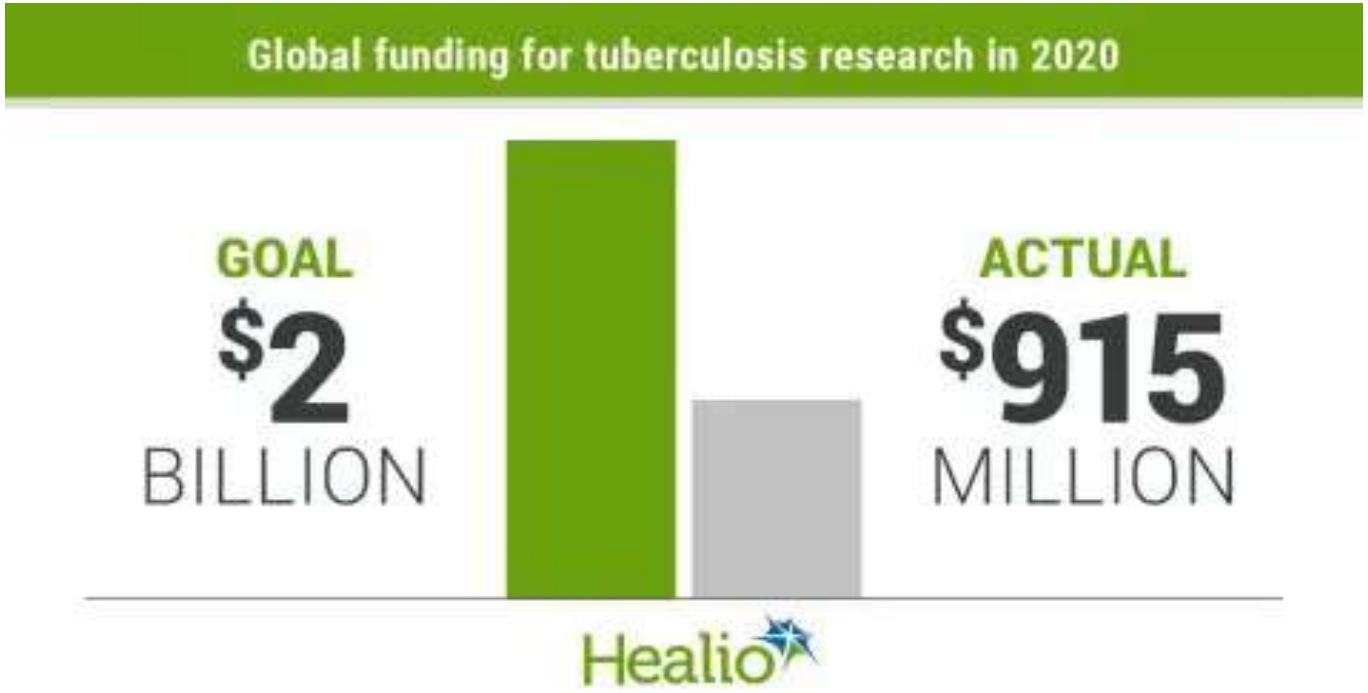
# TB cases cluster in low/middle income countries




Distribution of Tuberculosis cases (in 2020)
Average of ~ 1.5-2M deaths per year

https://www.who.int/publications/digital/global-tuberculosis-report-2021/tb-disease-burden/incidence

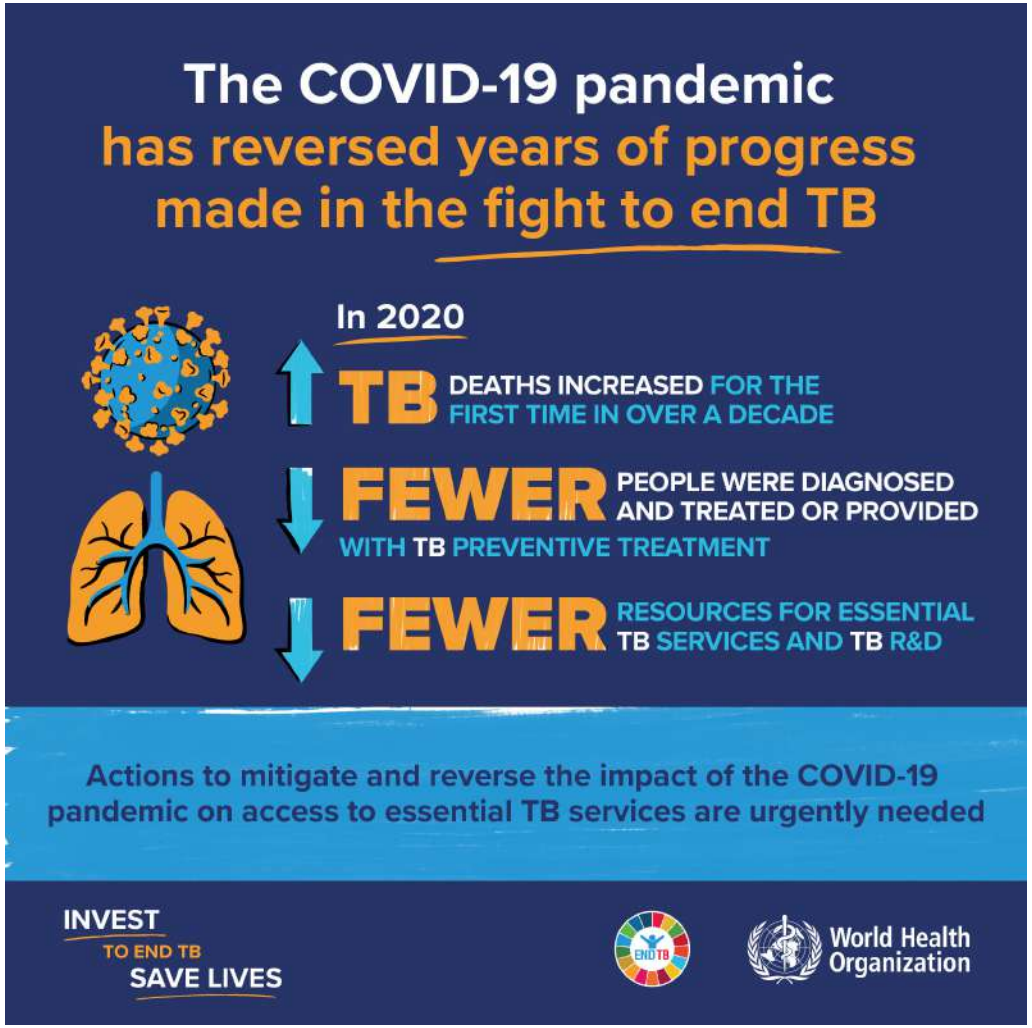
# TB research funding falls way short to intended target




Global funding for tuberculosis research totaled $915 million in 2020 — **less than half of the $2 billion goal** set at the 2018 United Nations High-Level Meeting on TB

https://www.healio.com/news/infectious-disease/20211209/funding-for-tb-research-falls-well-short-of-un-target

# WHO calls for more investments towards TB research



# Q&A

# Engineer Change.