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

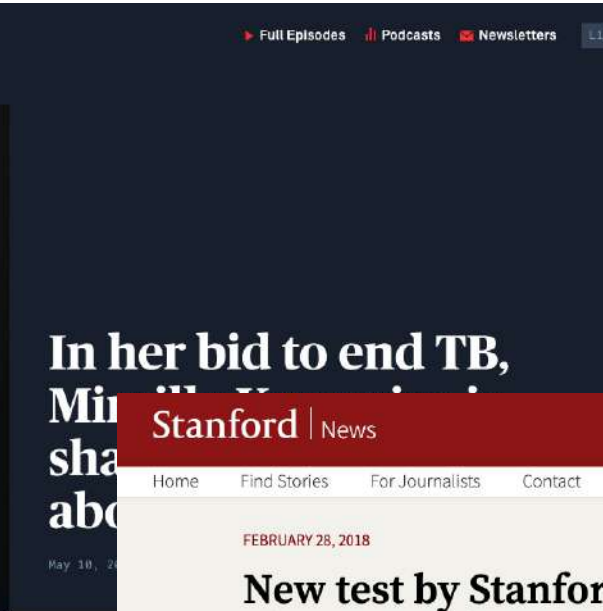
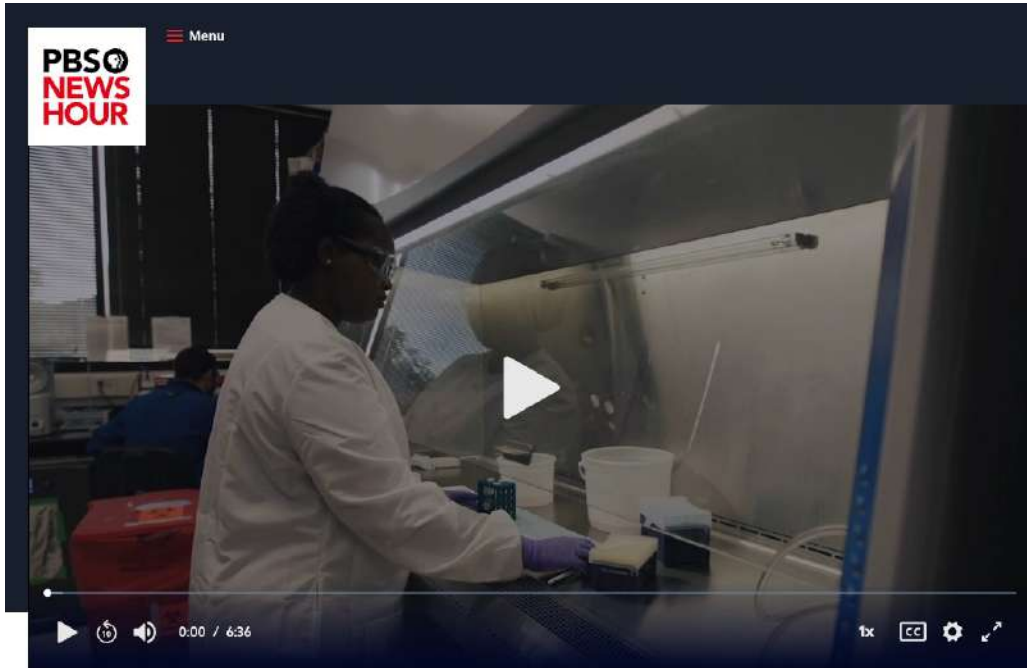
**Panel: Multidisciplinary Perspectives on Appropriate Technology**

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

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Mireille Kamariza, PhD  
Assistant Professor, Department of Bioengineering

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



Stanford | News

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FEBRUARY 28, 2018

## New test by Stanford researchers brings faster, cheaper and more reliable tuberculosis diagnosis to rural South Africa

Tuberculosis is a major public health problem worldwide, yet most of the people affected lack access to quick, reliable testing. Now, basic chemistry researchers have developed a new test that could help ease the burden.

BY NATHAN COLLINS

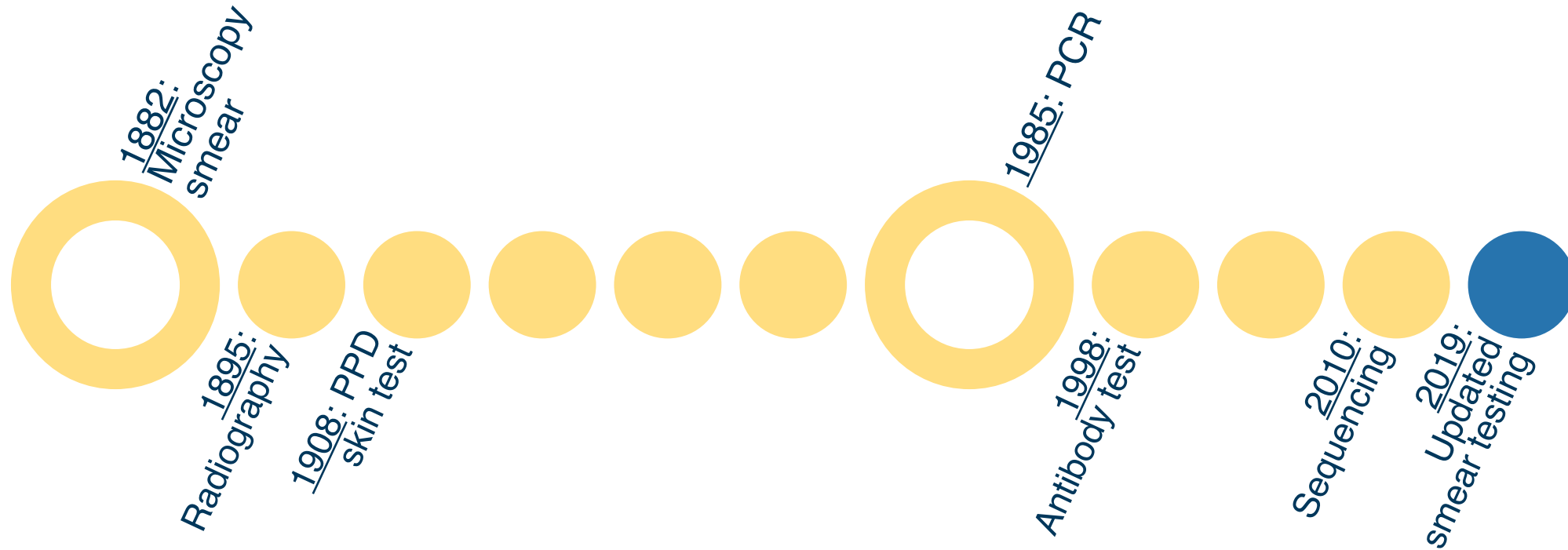
Tuberculosis, a distant memory to most Americans, remains a serious public-health threat in developing countries, in part because the most common test for the disease was developed a century ago and is not the most reliable. Now, a team of basic chemists working in collaboration with doctors and public health researchers in South Africa has developed a new test that makes it easier to diagnose and therefore treat the disease.

The new test, which the researchers describe Feb. 28 in the journal *Science Translational Medicine*, is designed to work quickly and in places with few of the amenities – even seemingly basic ones like

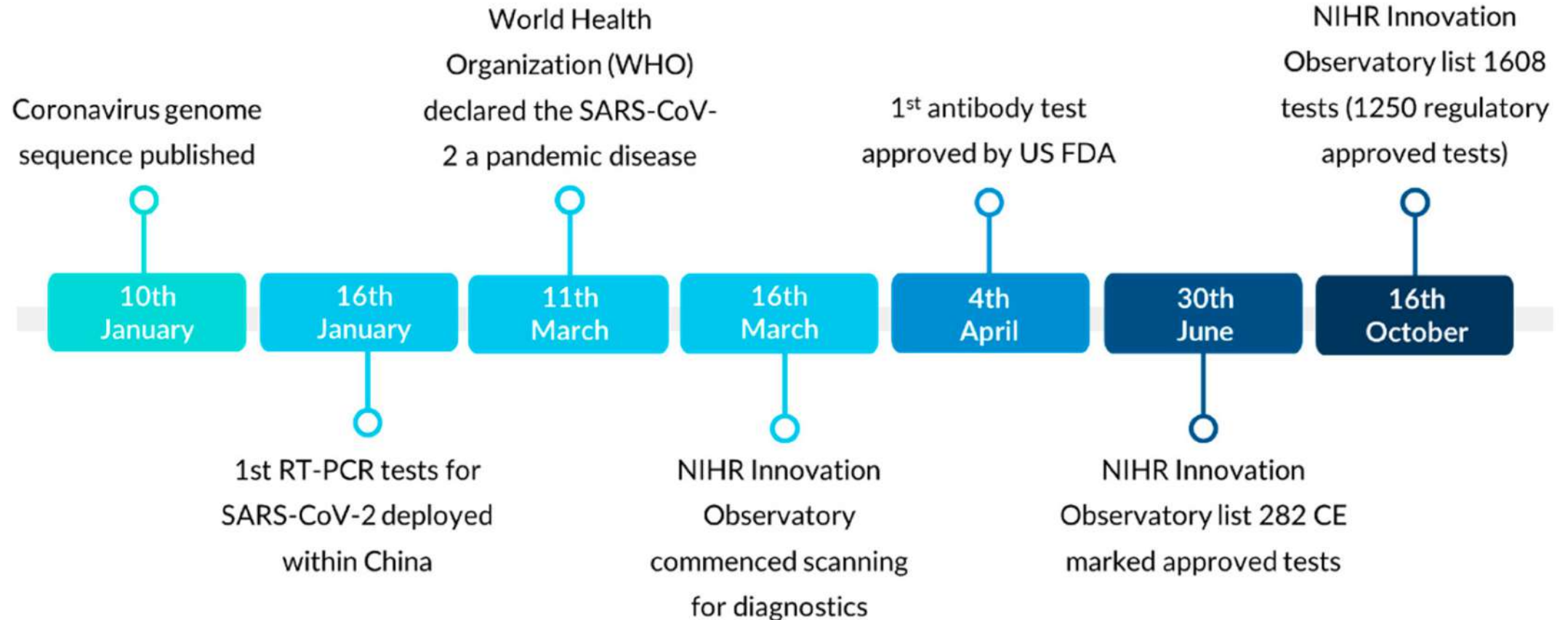


# TB diagnostic technology development span over a century

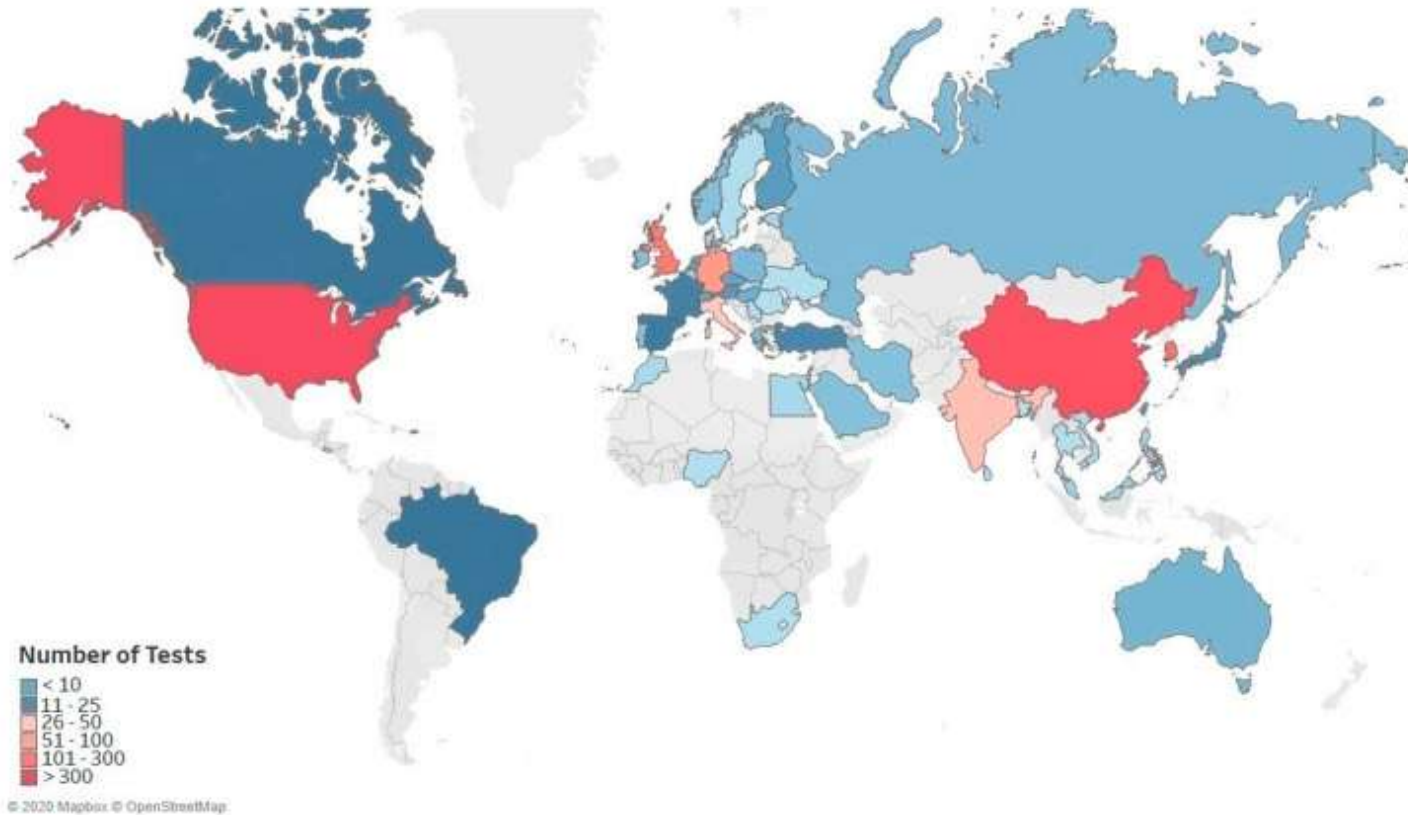
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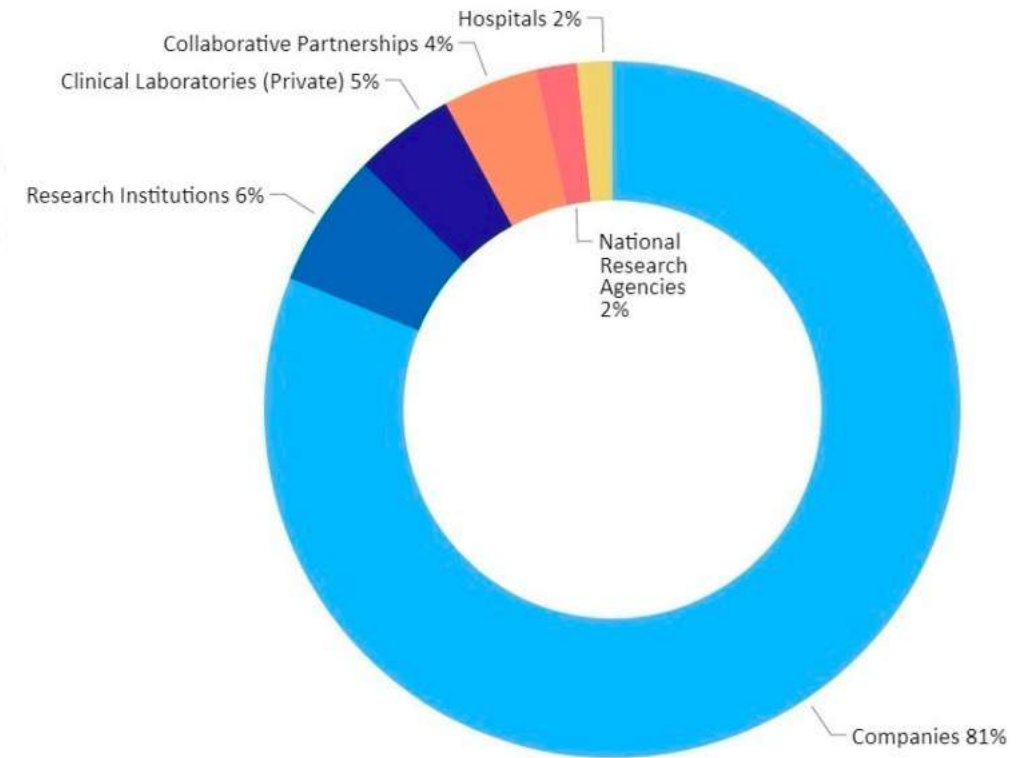
# Hundreds of Covid-19 diagnostic tests available within months



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



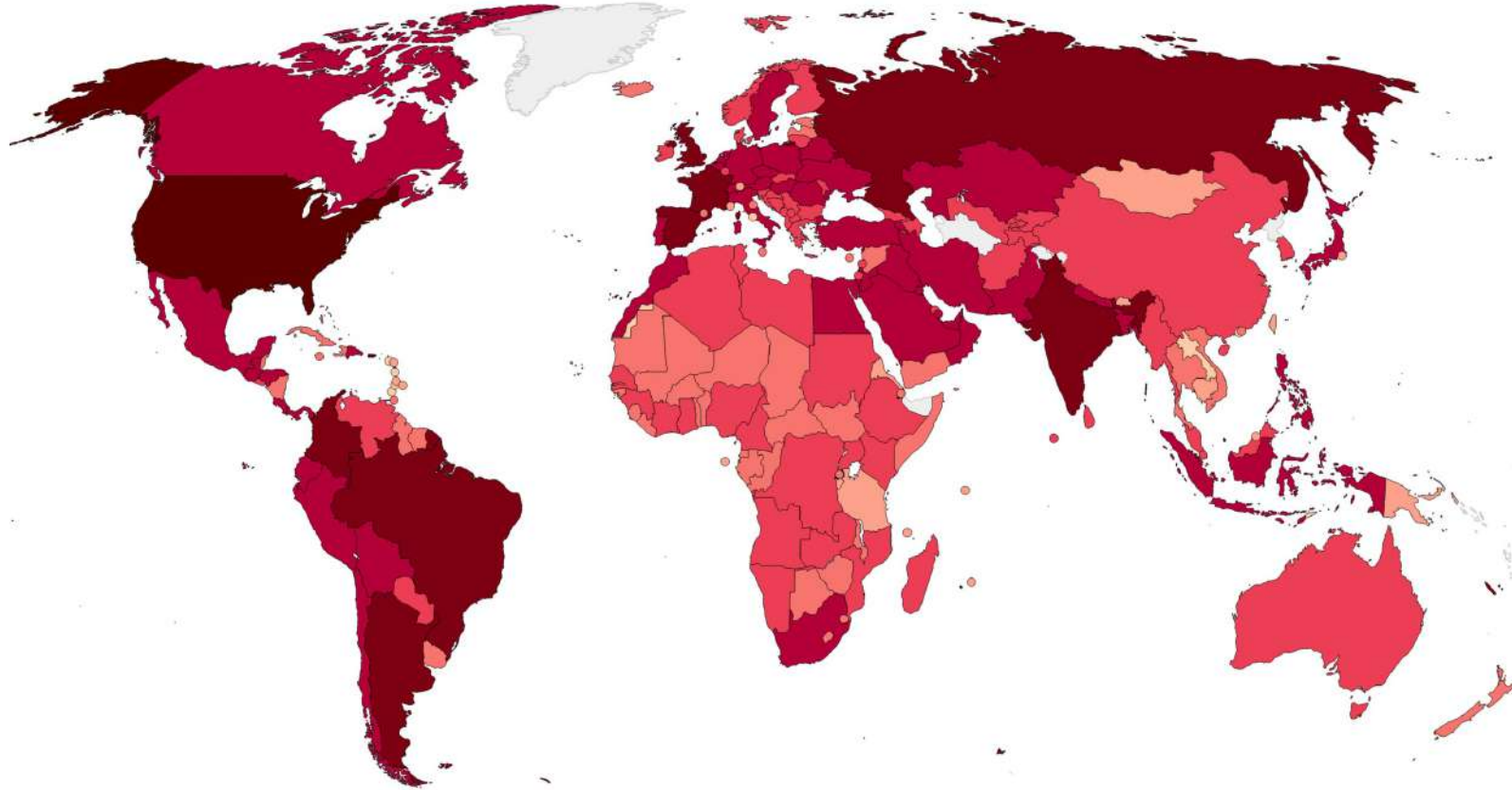
Geographical distribution



Distribution by entity type

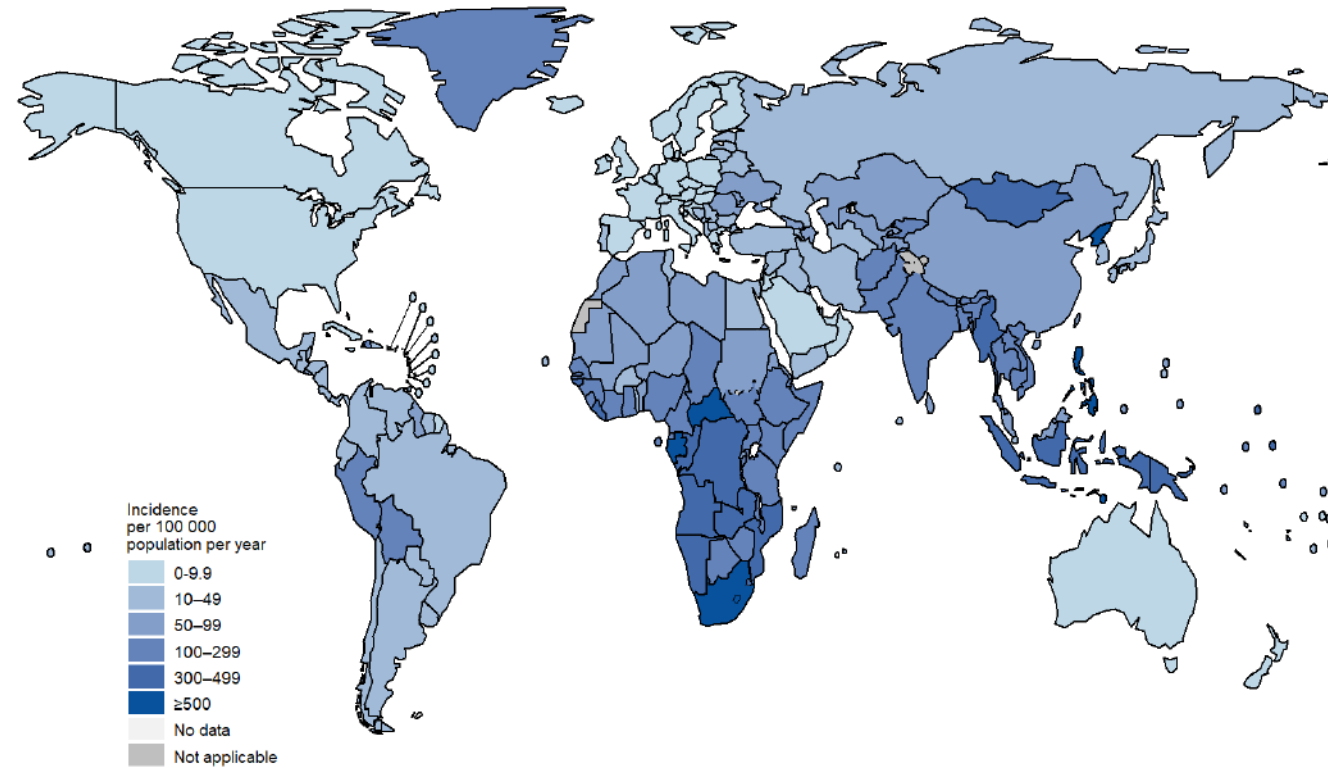
# Majority of Covid-19 cases were registered in the global north

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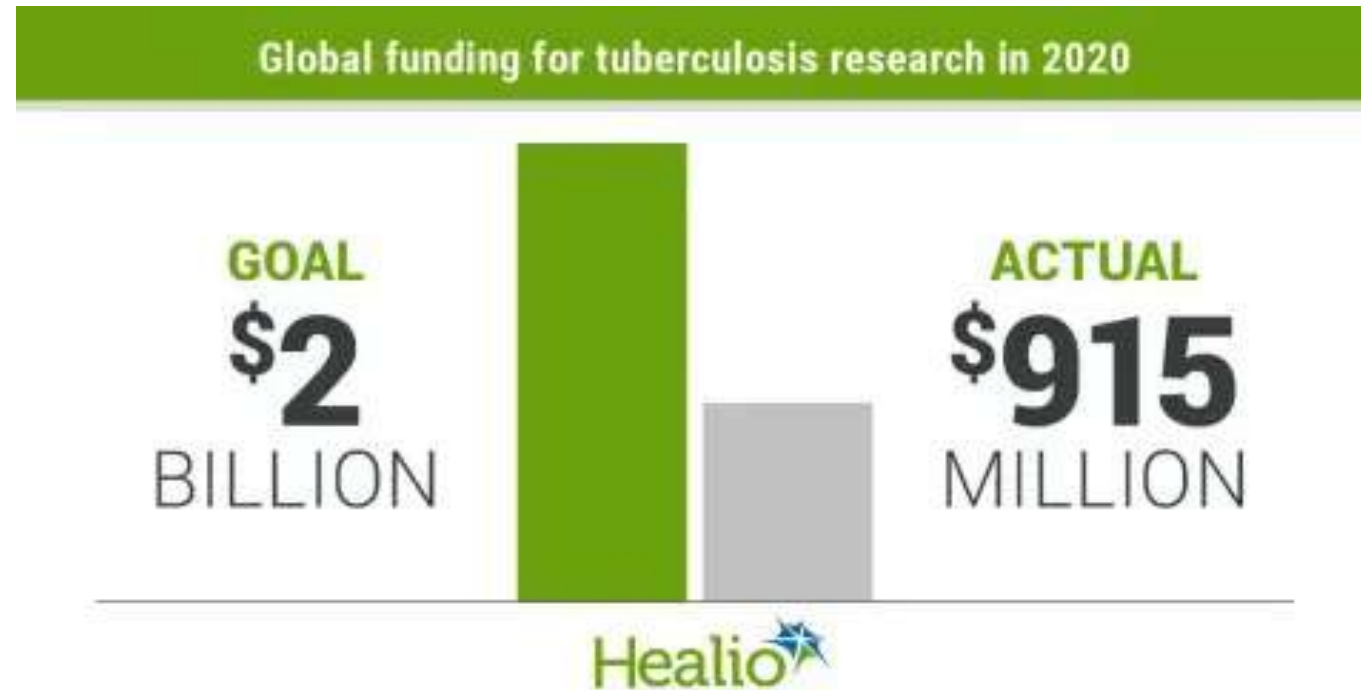
Distribution of Covid-19 cases (Last updated January 31, 2023)  
Average of ~ 2M deaths per year since 2020

# TB cases cluster in low/middle income countries



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

# TB research funding falls way short to intended target

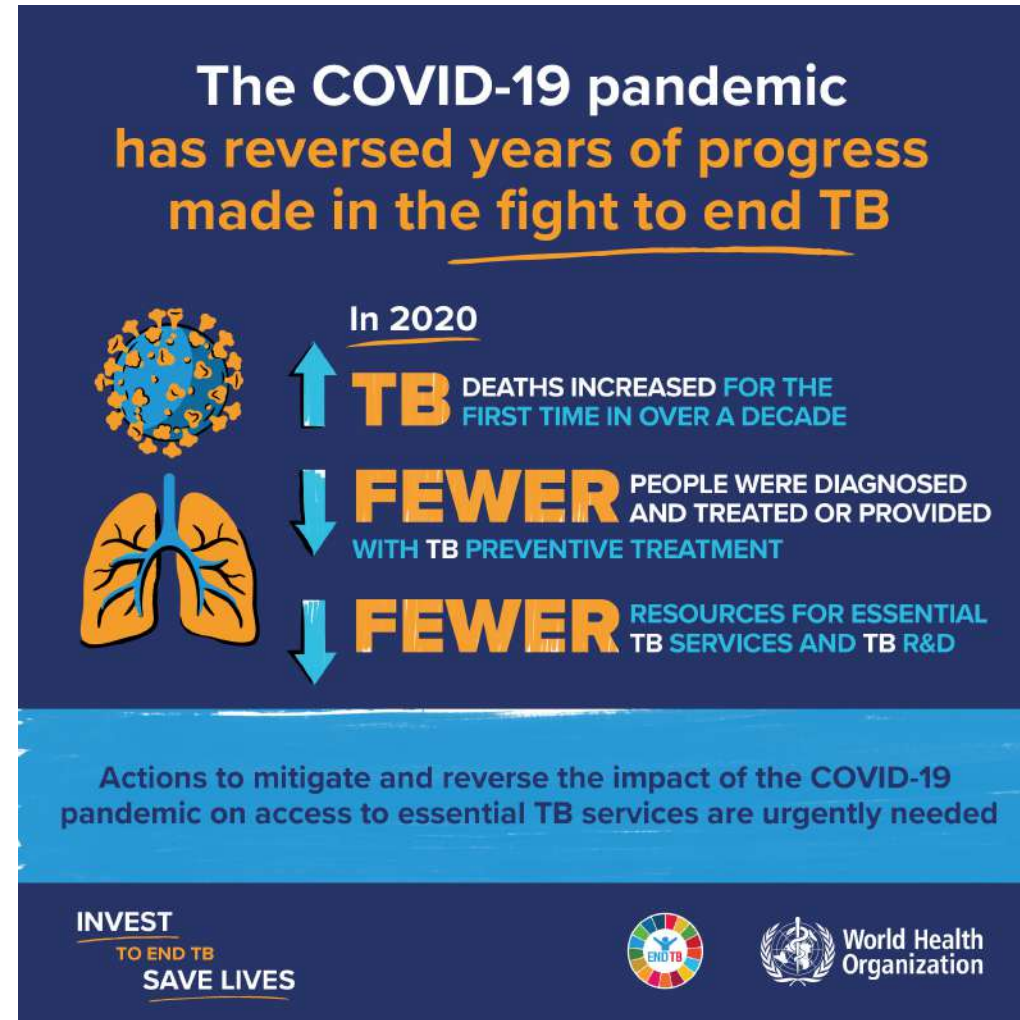


Global funding for tuberculosis research totaled \$915 million in 2020 — **less than half of the \$2 billion goal** set at the 2018 United Nations High-Level Meeting on TB



# WHO calls for more investments towards TB research

**The COVID-19 pandemic  
has reversed years of progress  
made in the fight to end TB**




**In 2020**

- TB** DEATHS INCREASED FOR THE FIRST TIME IN OVER A DECADE
- FEWER** PEOPLE WERE DIAGNOSED AND TREATED OR PROVIDED WITH TB PREVENTIVE TREATMENT
- FEWER** RESOURCES FOR ESSENTIAL TB SERVICES AND TB R&D

Actions to mitigate and reverse the impact of the COVID-19 pandemic on access to essential TB services are urgently needed

**INVEST  
TO END TB  
SAVE LIVES**



World Health Organization

# Q&A

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# Engineer Change.