Global Health : Challenge, Progress and Path Forward

Fina Tams

Structure of the talk


The concept of Globalization and Global Health (GH)


Why Global Health Matters


Major Global challenges


Success Stories


Global Health Organization

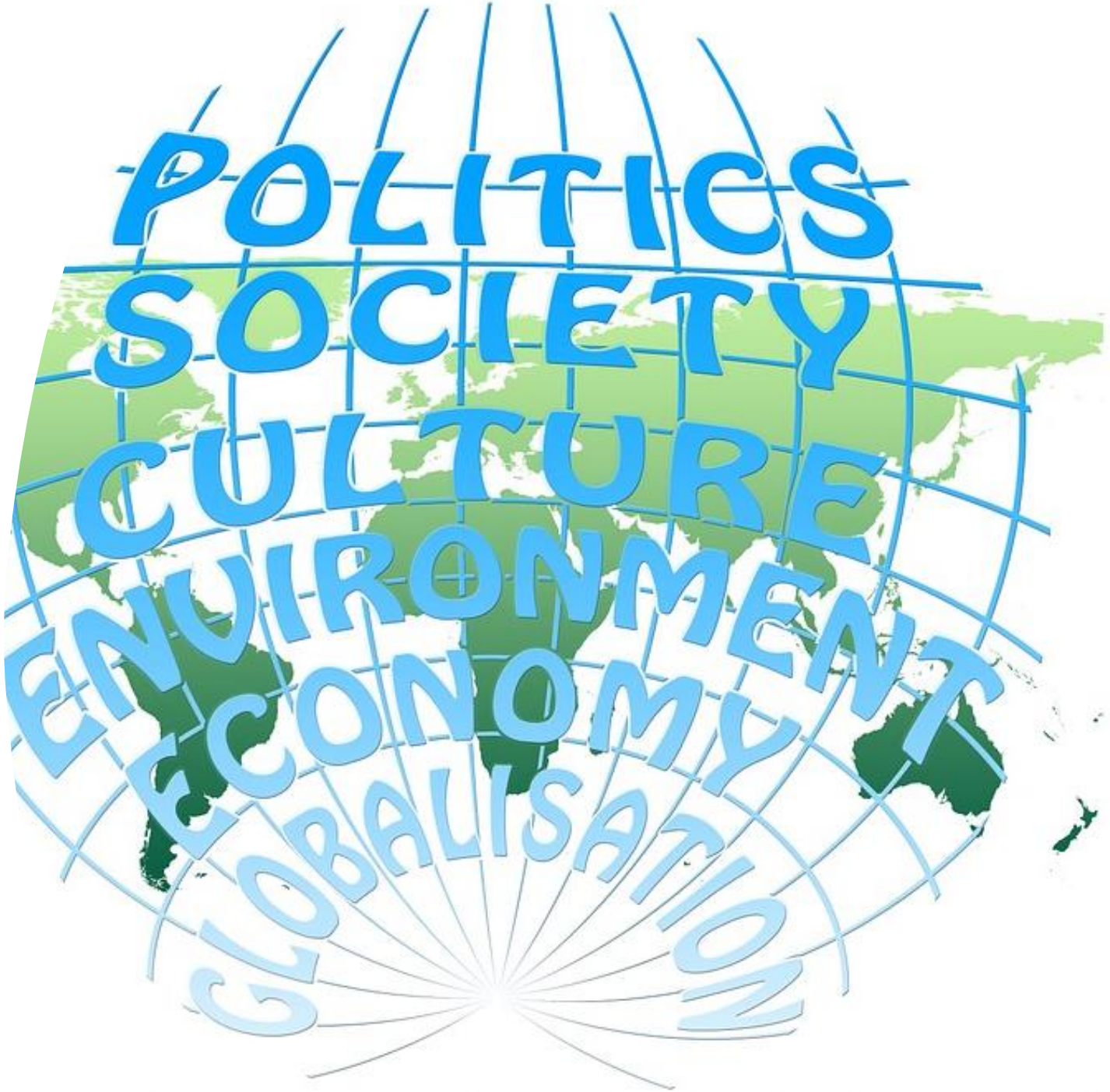

Role of Technology


Global Health and Equity

Globalization

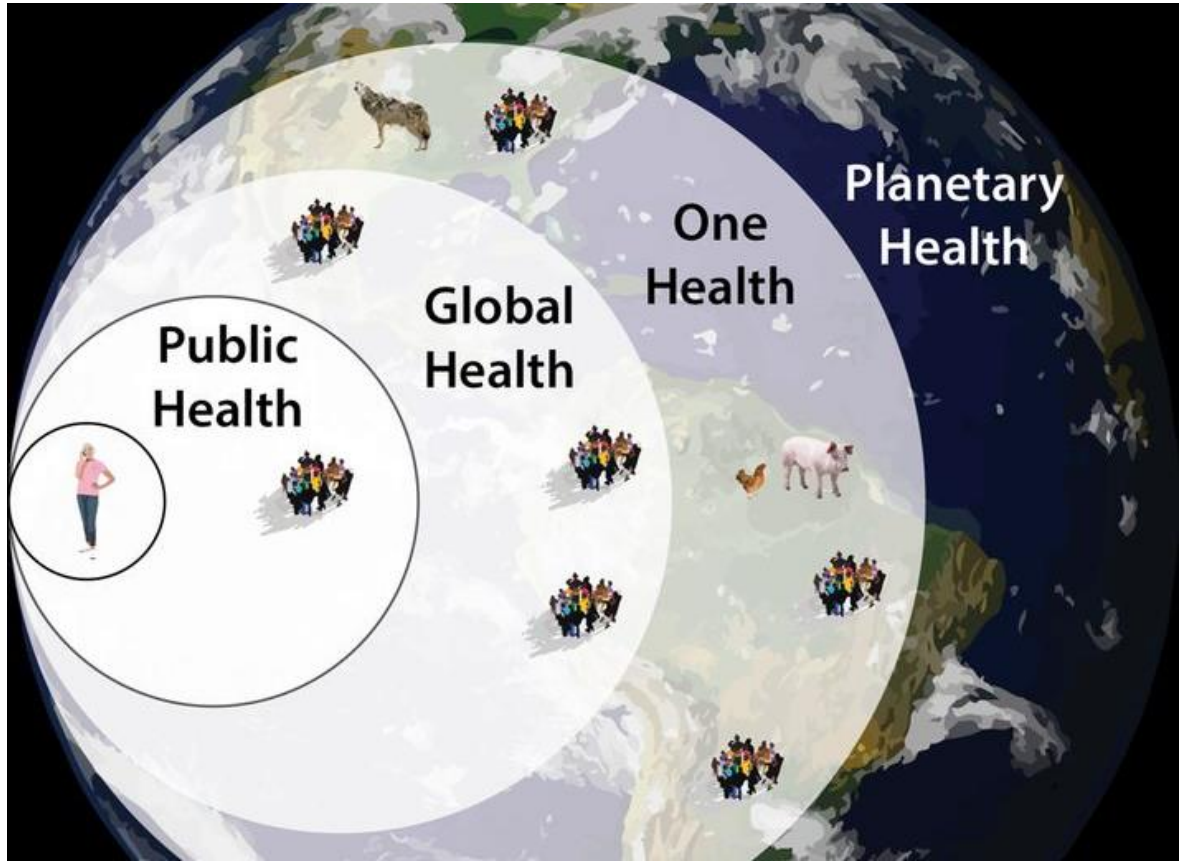
- Increased **interconnectedness and interdependence of people and countries**
- Opening of **international borders**
- **Changes** in the institution and policies to **facilitate or promote such flows**

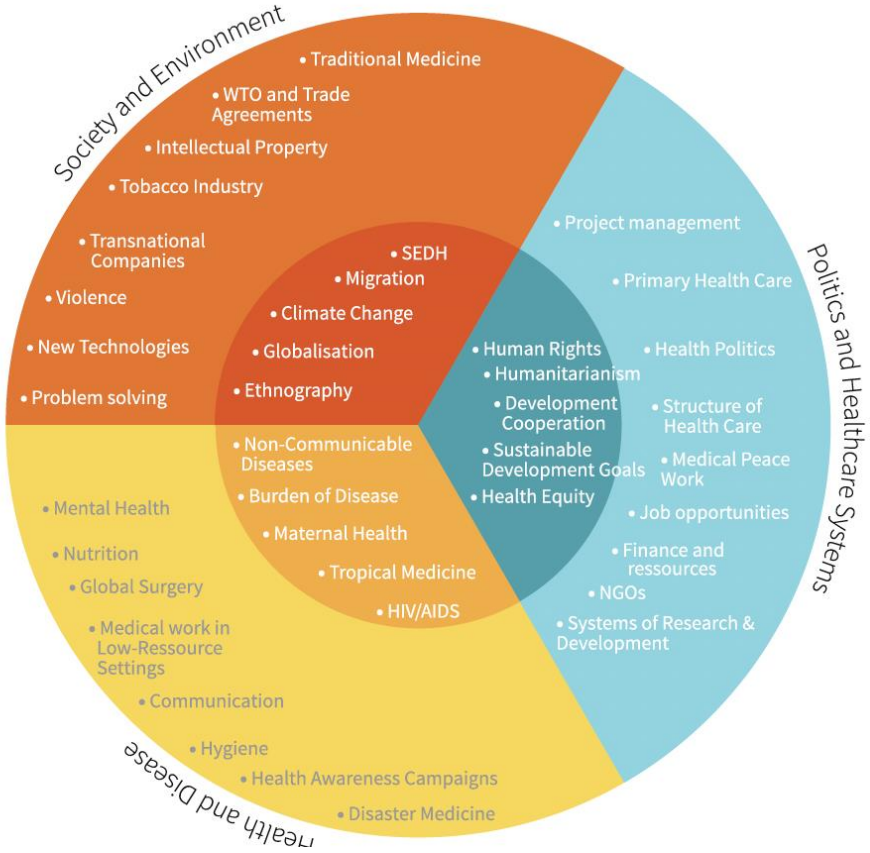
(WHO)



Positive and Negative Impact of Globalization

Global Health





Global Health

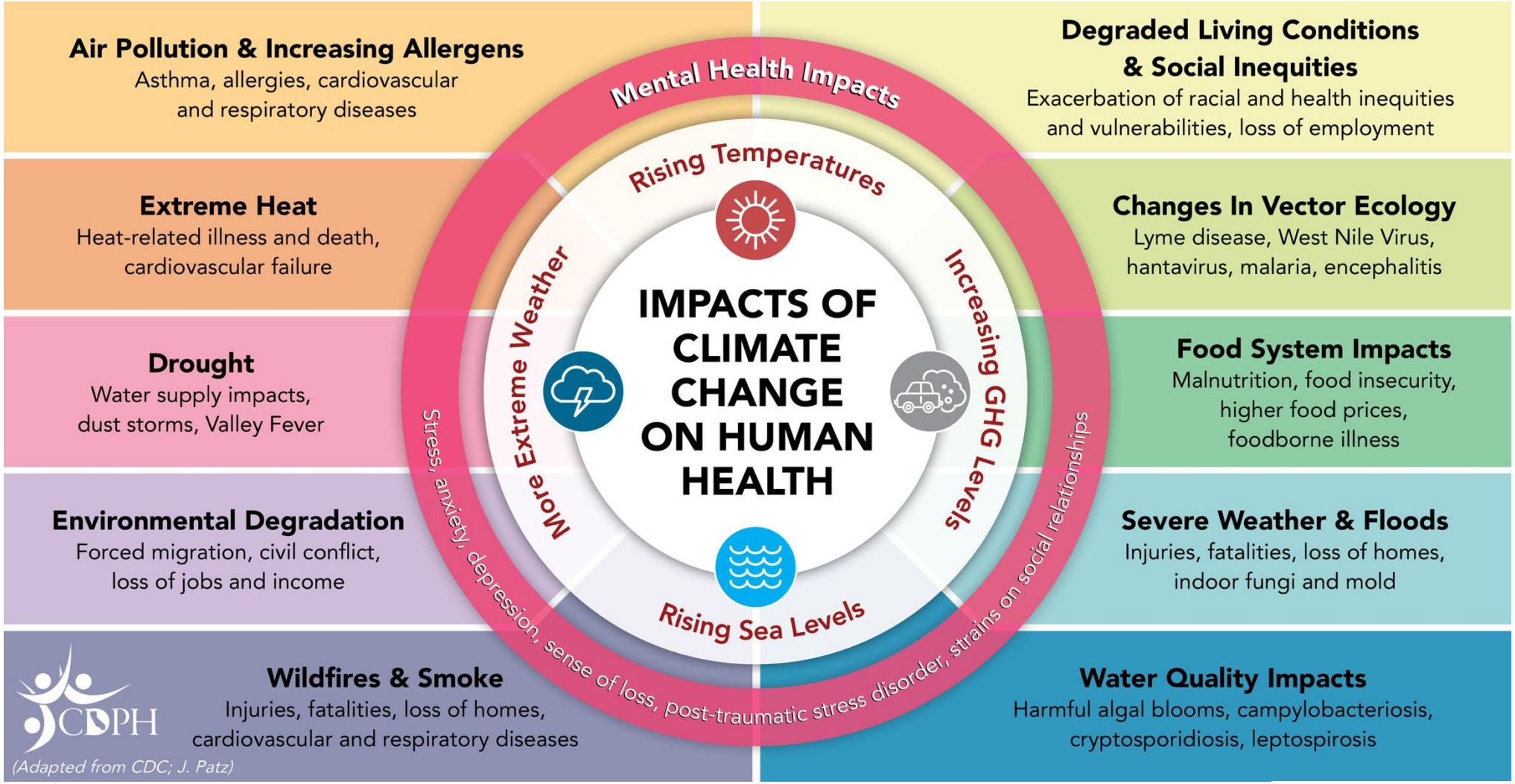
INFECTIOUS DISEASE

NON-COMMUNICABLE DISEASE

HEALTH SYSTEM

HEALTH EQUITY

ENVIRONMENTAL HEALTH



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Why Global Health Matters

Diseases know no borders (e.g., COVID-19, Ebola)

Humanitarian and ethical responsibility

Economic impact (healthy populations = stronger economies)

Promotes peace and stability

Key Global Health Indicators

- Life expectancy
- Infant and maternal mortality
- Access to clean water and sanitation
- Immunization rates
- Burden of disease (DALYs, YLLs)

Major Global Health Challenges

Infectious Diseases: HIV/AIDS, TB, malaria, COVID-19 variants

Non-Communicable Diseases: Diabetes, heart disease, cancer, and stroke

Mental Health Crisis: Depression, anxiety, access to care

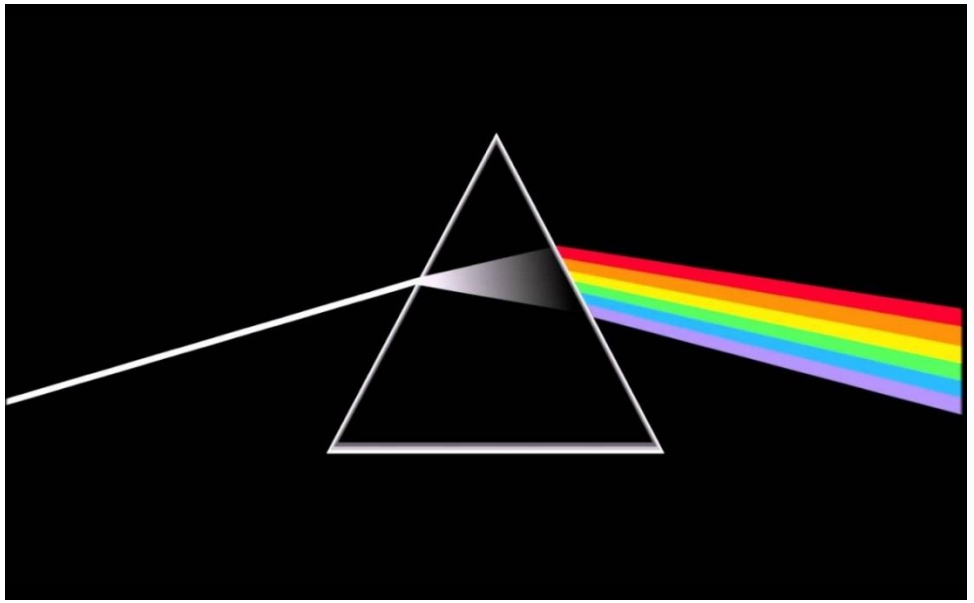
Climate Change & Health: Heatwaves, air quality, water-borne illnesses

Health Inequity: Disparities by income, geography, gender

Changing landscape of Global health: Shifting geopolitics, Reserving multilateralism, the US funding cut

Peering into the Future: *Five Mega-Trends Thru 2100*

- Population Change
- Changing Demographics
- Urbanization
- Climate Change
- Transformative Technologies



Source: Carroll, Dennis. Global Health and Emerging Trends. 2025. Presented during the Prince Mahidol Award Conference 2025

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Success Stories

ERADICATION OF SMALLPOX

GLOBAL POLIO ERADICATION INITIATIVE

ACCESS TO ANTIRETROVIRALS (ARVS)

MRNA VACCINE TECHNOLOGY (COVID-19)

Global Health Organizations

WHO – Global health leadership & emergency response

UNICEF – Child and maternal health

CDC & ECDC – Surveillance and disease control

GAVI, The Vaccine Alliance

MSF (Doctors Without Borders) – Emergency humanitarian aid

Global Fund for AIDS, TB and Malaria (GF-ATM)

NCD Alliance

The Role of Technology – Digital health

TELEMEDICINE

AI AND HEALTH DATA MODELING

DRONES FOR MEDICAL DELIVERY

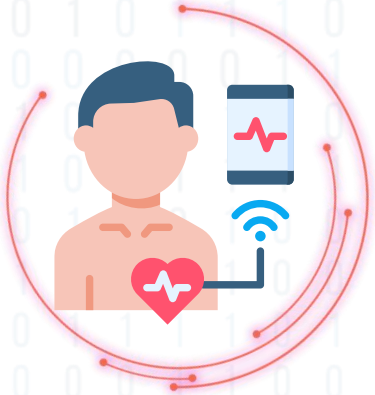
MOBILE HEALTH (MHEALTH)

GENOMIC SURVEILLANCE

AI in Healthcare

Machine Learning:
Neural Networks and Deep Learning

Example:
- Precision medicine
- Outcome prediction

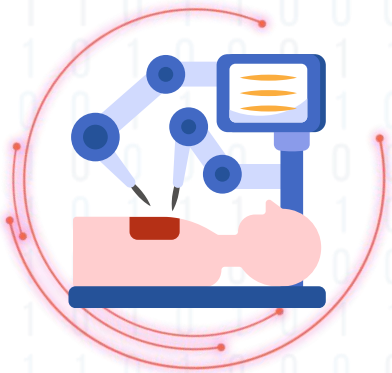


Natural Language Processing (NLP)

Example:
- Diagnosis accuracy

Rule-Based Expert Systems

Example:
- Clinical Decision Support System



Physical Robotic

Example:
- Robotic surgery

Robotic Process Automation (RPA)

Example:
- Patient administrative, billing, scheduling, etc.

(Davenport & Kalakota, 2019)

Global Health & Equity

SOCIAL DETERMINANTS OF HEALTH: EDUCATION, INCOME, ENVIRONMENT

CASE STUDY: VACCINE INEQUITY DURING COVID-19

FOCUS: DECOLONIZING GLOBAL HEALTH, LOCAL LEADERSHIP

- Vaccination has saved 154 millions lives globally in just 50 years
- Working together, we can:
  - Eradicate Polio
  - Eliminate Measles and Rubella
  - Eliminate Hepatitis B and the liver disease it causes
  - Eliminate Cervical Cancer

Looking Ahead – The Future of Global Health

Pandemic preparedness

Universal Health Coverage (UHC)

Climate-resilient health systems

Strengthening local healthcare infrastructure

Cross-border collaboration

Call to Action

SUPPORT GLOBAL HEALTH INITIATIVES

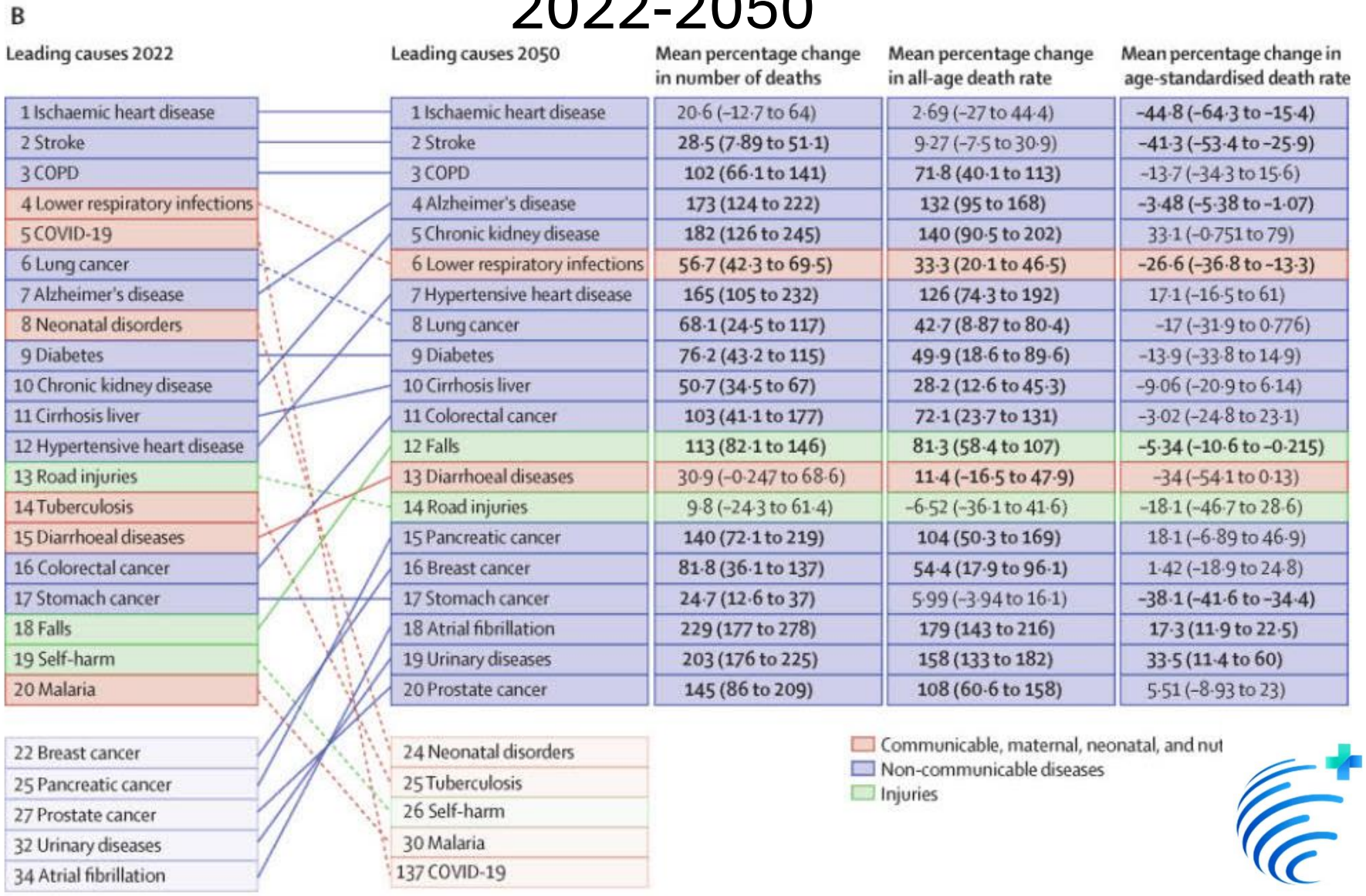
STAY INFORMED AND ADVOCATE

VOLUNTEER OR DONATE

PURSUE CAREERS OR RESEARCH IN GLOBAL HEALTH

Thank you

Leading Causes of Global Mortality Mortality 2022-2050



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