



# Making health measurable

## IHME and the Global Burden of Disease

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William Heisel, Director of Global Engagement, IHME

*International Society for Disease Surveillance, May 16, 2016*

# Outline

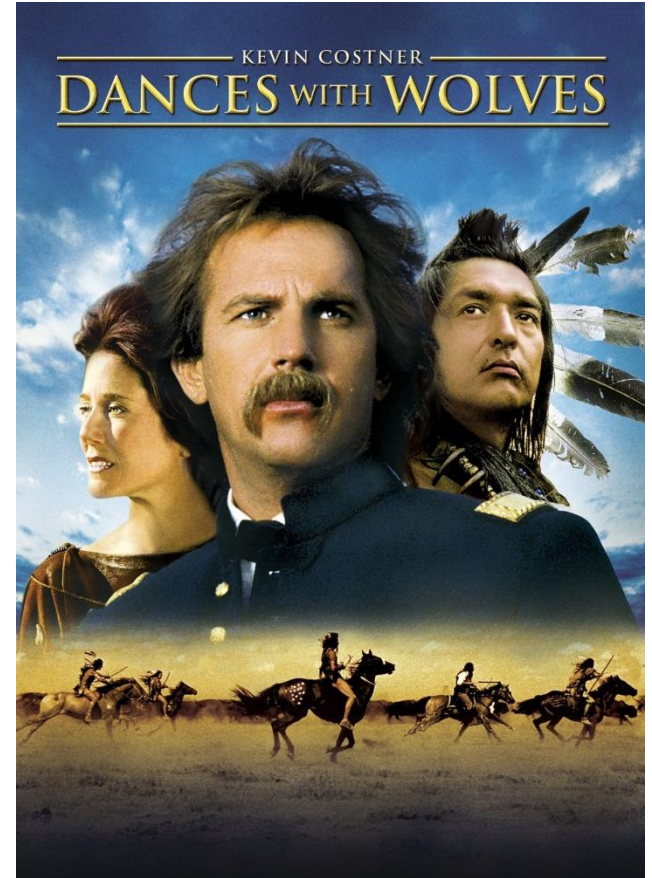
- What is IHME?
- What is the Global Burden of Disease?
- What impact has the GBD had?
- Questions?

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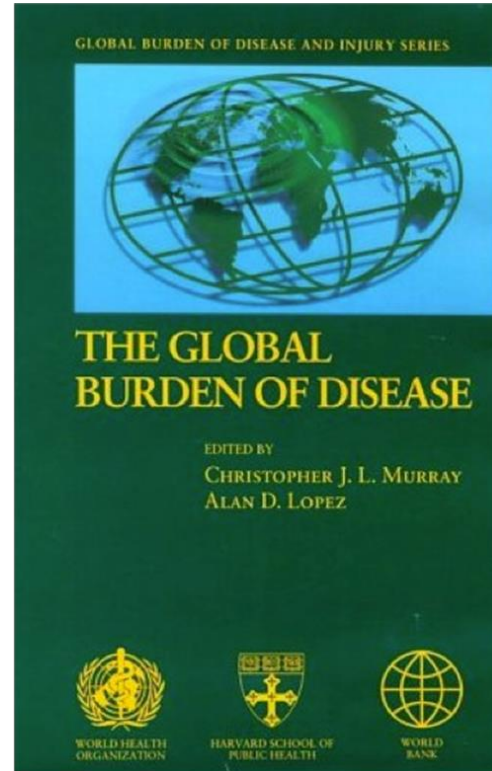
# Flashback: 1990

- Wild west of health measurement: educated guesswork
- Conflicting claims from interest groups
- No way for governments to measure progress, avoid repeating failures



# The Global Burden of Disease

- GBD rule: you can only die once
- Measured all health threats, not just fatal ones
- Elevated overlooked problems:
  - Mental health
  - Malaria
  - Road injuries

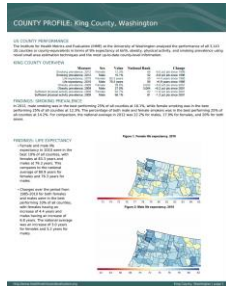
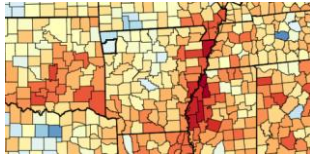


# 2007: IHME founded

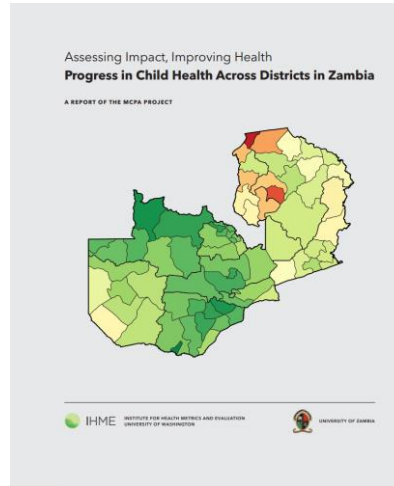
- Dedicated to providing independent, rigorous, and timely scientific measurements to accelerate progress on global health
  - Everyone deserves to live a long life in full health
- Focused on answering three critical questions:
  - What are the world's major health problems?
  - How well is society addressing these problems?
  - How do we best dedicate resources to get the maximum impact in improving population health in the future?
- Now 250 faculty and staff

# What global health means to us

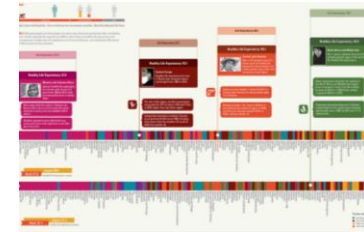
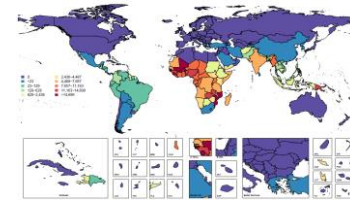
## Local



## Country



## Global



# Broad range of funders

- Core grant from the Bill & Melinda Gates Foundation to focus on developing countries
- Annual funding from Washington state
- Expanding group of foundation, corporate, and private funders



National  
Institute  
on Aging  
■ ◆ ★ ✦



Inter-American  
Development Bank

BILL & MELINDA  
GATES *foundation*

Bloomberg  
Philanthropies

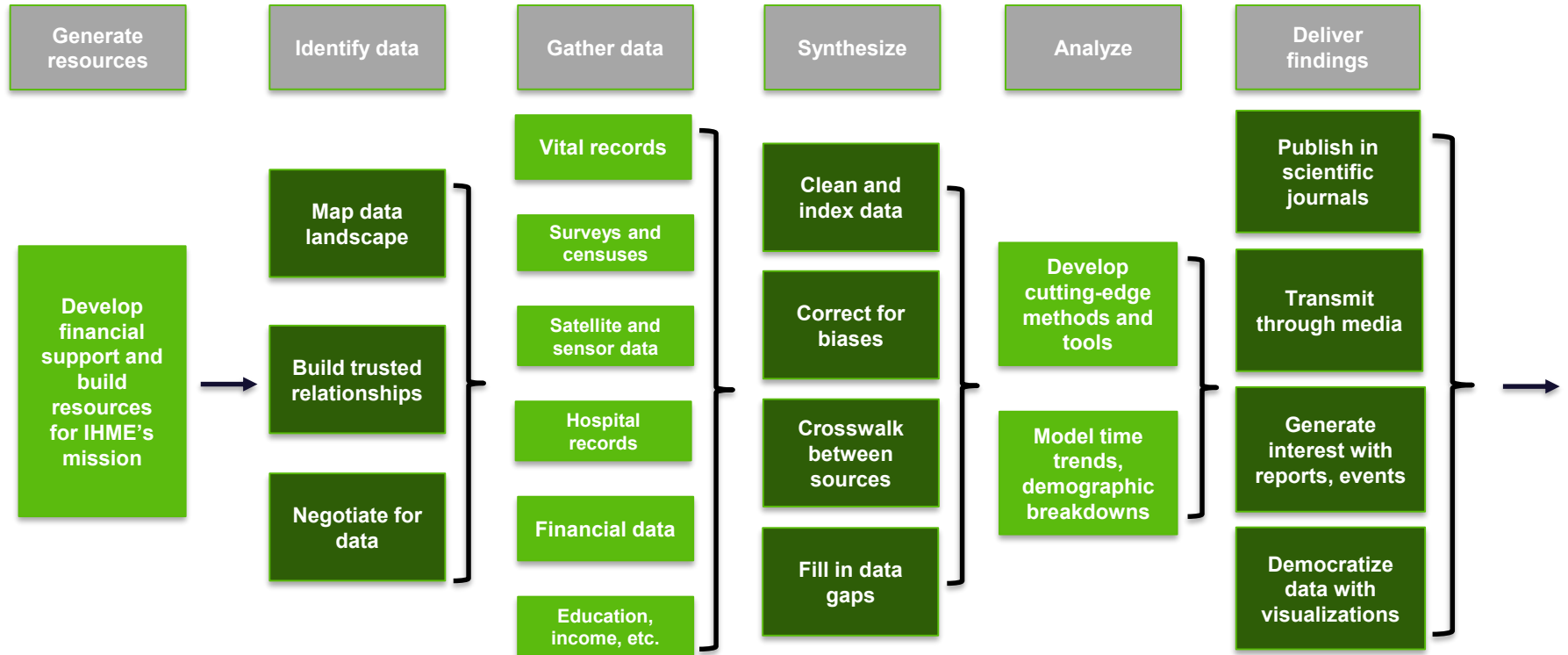


Medtronic  
FOUNDATION

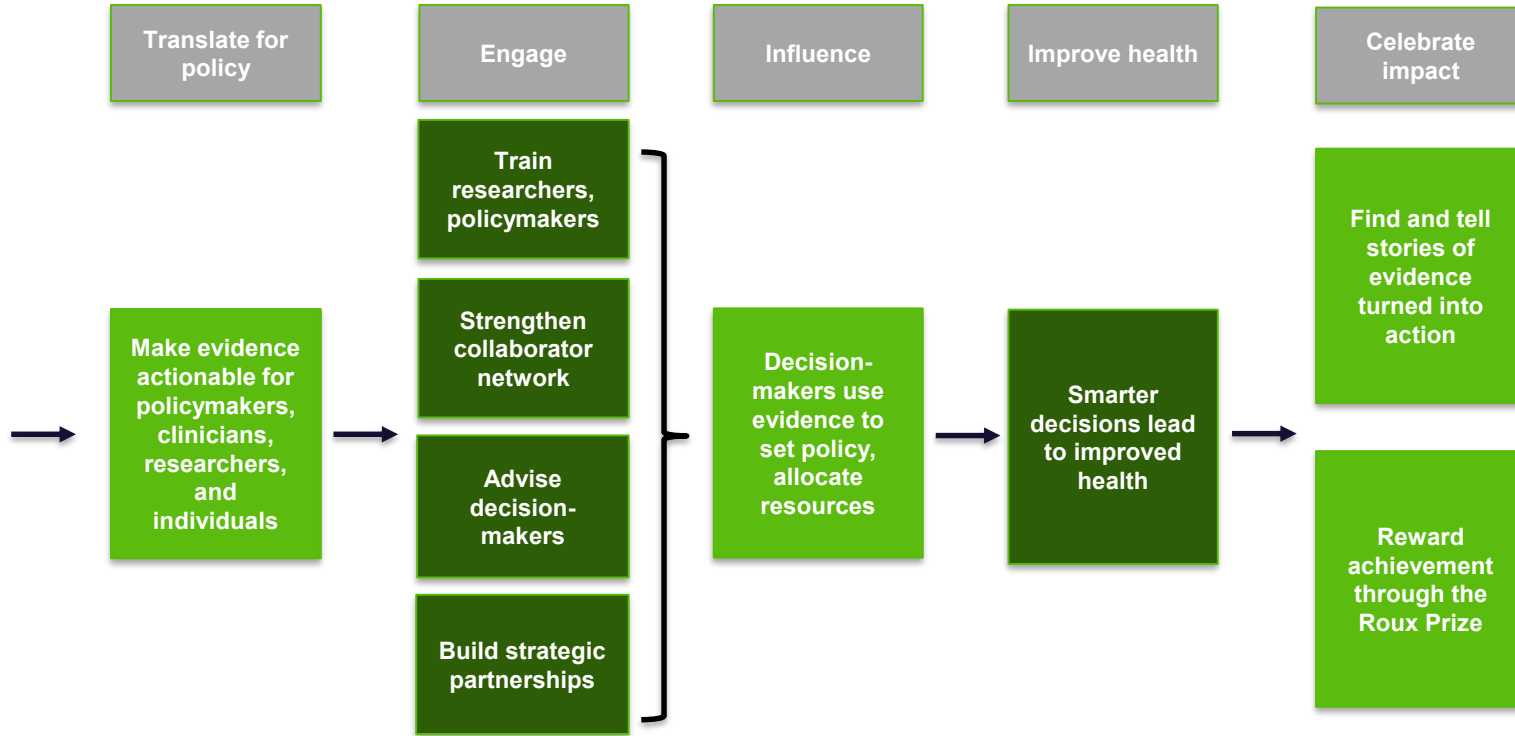




# Theory of change: turning data into evidence



# Theory of change: turning evidence into outcomes



# Outline

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- **What is the Global Burden of Disease?**
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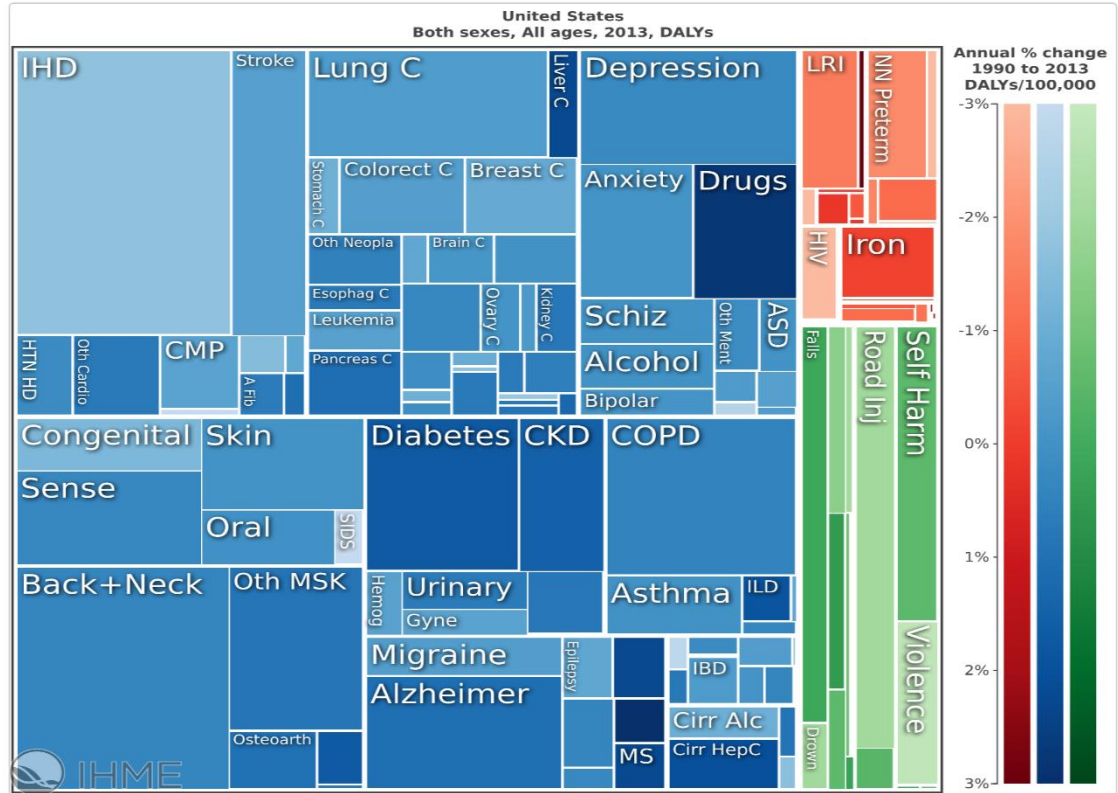
# Prosecuting the data to find the truth

- Adjustment of raw data critical for more accurate estimates.
- Example: Survey data
  - Women under-report weight
  - Men over-report height
  - IHME adjusts for these biases. Other institutions do not.



# Focusing on what ails, not just what kills

*Examining only causes of death and not illnesses misses those things that rob people of the most healthy life. By developing a comprehensive and systematic way of analyzing years lost to death and healthy years lost to illness, IHME measures all of the disease burden and creates a more accurate picture of the global burden of disease.*

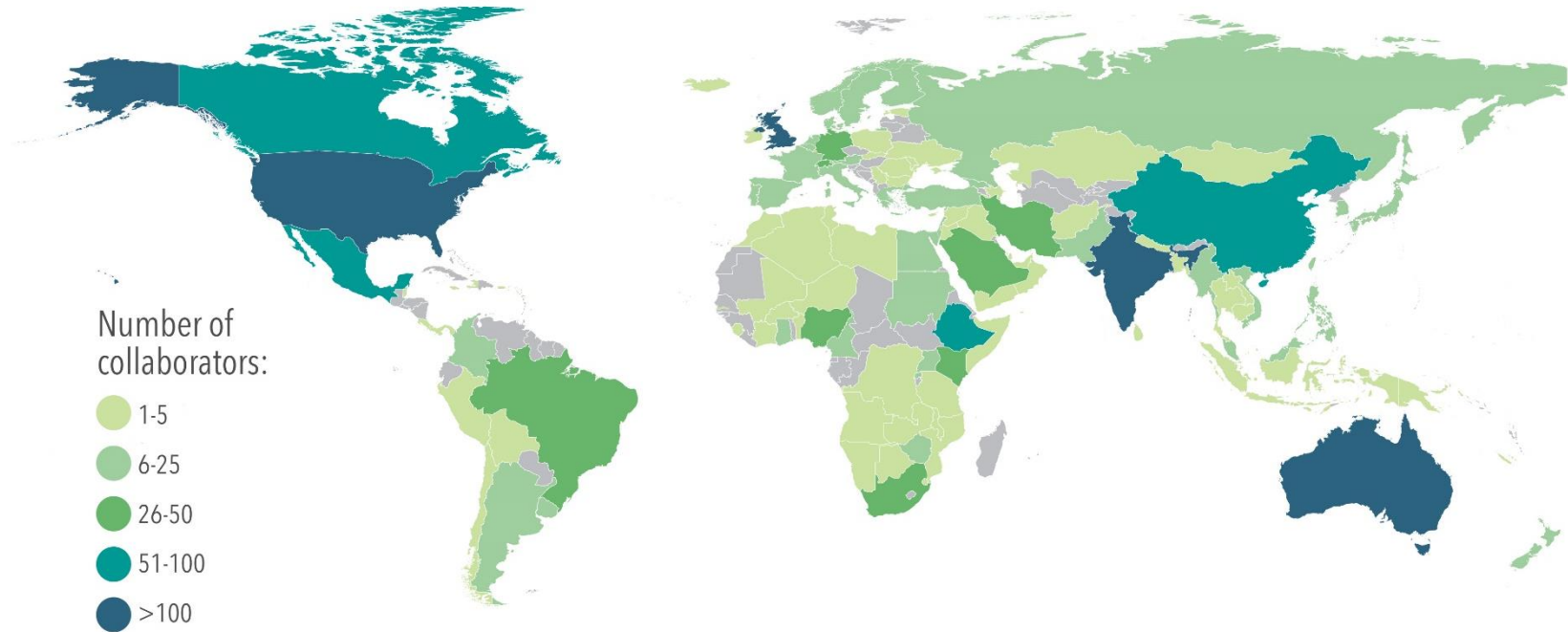


# Making the science understandable and actionable



*A key component of IHME's mission is to make its research widely available to not only policymakers, but also journalists, researchers, and other members of the global health community. IHME produces a wide variety of reports and atlases each year with updates to data analyses and collection, research methodologies, and needed information for global health stakeholders.*

# GBD collaborators by country: 1,700+ globally



# Outline

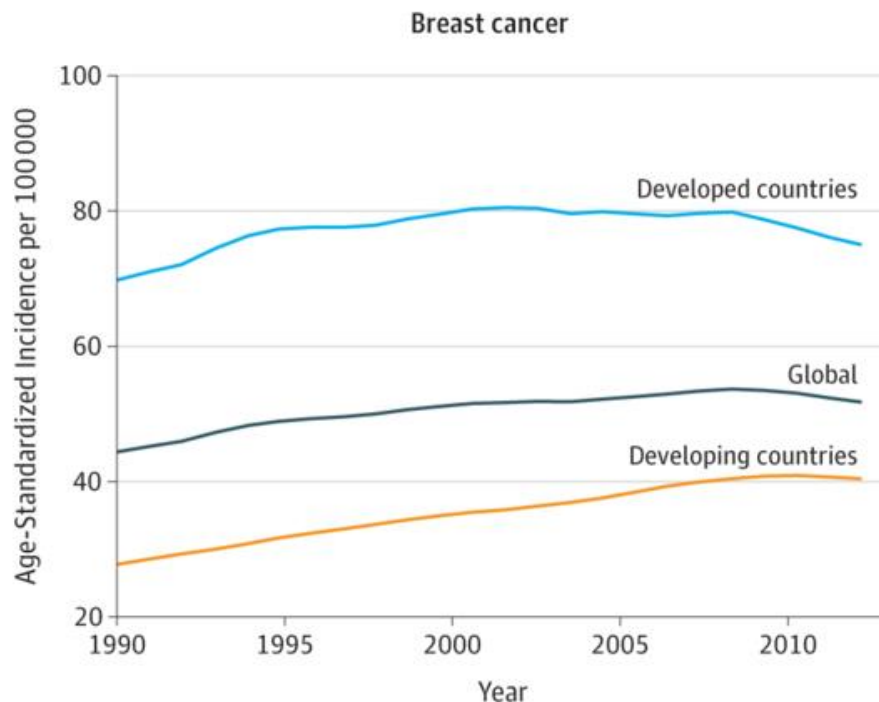
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# GBD impact in scientific literature

- GBD cancer paper published in *JAMA Oncology* in May 2015
- Paper has been viewed more than 46,000 times since
- It has received more attention than any paper published in *JAMA Oncology* in the past year\*

\*As measured by Altmetric



# Who uses the GBD for decision-making?

- Largest global public health agency
- Largest funder of primary biomedical research
- Largest development bank
- Largest funder of health aid
- Two largest private funders of health research
- Largest distributor of vaccines



BILL & MELINDA  
GATES *foundation*



THE WORLD BANK



wellcome trust



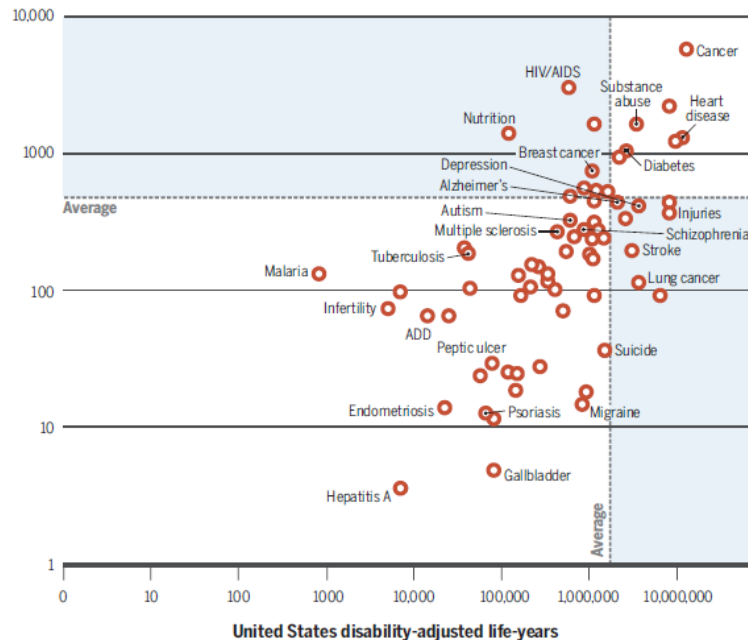
# NIH using GBD data for strategic planning

- The National Institutes of Health announced in its 2016-2020 strategic plan that it was using GBD findings to shape their funding priorities.
- “Understanding the burden of disease is a vital consideration for setting NIH’s research funding priorities.”
- Influencing \$30 billion in funding annually.

## A matter of proportion

Alzheimer’s, lung cancer, and some other diseases that impose a relatively high health burden (years lost to early death or disability) get less NIH funding than lower burden diseases such as HIV/AIDS.

Research spending, 2010 (millions of dollars)



This research “makes clear that poor nutrition is the single-greatest cause of preventable diseases and ailments in this country – the single-greatest cause. Simply what we put into our bodies – seems obvious, but we still resist that truth.”



# Public Health England guided by GBD



Public Health  
England

Protecting and improving  
the nation's health

**From evidence into action: opportunities to  
protect and improve the nation's health**

# PHE committed to priorities supported by GBD

## Our seven priorities

We have identified seven priorities where we will focus our efforts. These are supported by the evidence in the *Global Burden of Disease* study<sup>28</sup> that emphasises just how important these factors are from an epidemiological perspective in determining our health, and also how the same risks contribute to so many of the conditions and diseases that cause ill health and premature death. And we know these require action on contributory factors, such as

- Tackling obesity, particularly among children
- Reducing smoking and stopping children starting
- Reducing harmful drinking and alcohol-related hospital admissions
- Ensuring every child has the best start in life
- Reducing the risk of dementia, its incidence and prevalence in 65-75 year olds
- Tackling the growth in antimicrobial resistance
- Achieving a year-on-year decline in tuberculosis incidence





GBD results led to a new program in Rwanda to bring 1 million clean cook stoves to homes after the study showed that household air pollution was a leading risk factor for poor health.

# Outline

- Why IHME exists
- What IHME does
- Impact
- Questions?





# Thank you

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William Heisel

Director of Global Engagement

[wheisel@uw.edu](mailto:wheisel@uw.edu)

[www.healthdata.org](http://www.healthdata.org)

**W** UNIVERSITY *of* WASHINGTON

Institute for Health Metrics and Evaluation