Unfolding Decades of Global Health Development

Institute for Health Metrics and Evaluation
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IHME Background

Fact: Health spending accounts for 9% of world economic output.

- Established in 2007
- 10 year grant from The Bill and Melinda Gates Foundation
- University of Washington, Department of Global Health
- Independent research center
- Monitor global health conditions, health systems, interventions, initiatives and reforms
- Build a base of objective evidence about what works/does not work
- Make this evidence base freely available in the public domain
- Provide high quality and timely information on health
- Inform the decision-making of policymakers and other stakeholders

Resulting in better allocation of resources to improve health conditions and health systems performance globally.
IHME Mission

• **Vision**
  IHME aspires to make available to the world high-quality information on population health, its determinants, and the performance of health systems. We seek to achieve this directly, by catalyzing the work of others, training researchers and informing policymakers.

• **Mission**
  To improve the health of the world’s populations by providing the best information on population health.
IHME Global Health Data Exchange

Datasets

IHME Research
- Adult Mortality (Global)
- Child Mortality (Global)
- Corrected Sibling Survival Methods (Global)
- Death Distribution Methods (Global)
- Development Assistance for Health (Global)
- DTP3 Immunization Coverage (Global)
- Educational Attainment and Child Mortality (Global)
- Hearing Loss Prevalence (US)
- Insecticide-treated bed nets (Sub-Saharan Africa)
- Maternal Mortality (Global)
- Public Financing of Health (Developing Countries)
- Summary Birth History Methods (Global)
- Systolic Blood Pressure (Japan)

Other Health Indicators
- Gross Domestic Product (GDP)

GIS Tool

In the Works:

IHME’s vision is to make high-quality information on population health, its determinants, and the performance of health systems available to the world. We hope to achieve this through the development of an online data platform for global health data. The platform will be simple to use and accessible to all. It will include:

- All research results generated by IHME
- Extensive documentation for all datasets
- Source data (where we can legally share the datasets) or links to the data owner
- Datasets for other health indicators (such as, education level and GDP)

In addition, we will encourage other researchers and institutions in global health to post their data on the platform to expand the universe of available and accessible global health data. For more details, please contact the data team at data@healthmetricsandevaluation.org
IHME GIS Tool

- Presentation/visualization tool for GHDE datasets
  - Maps health indicators, GDP and aid flows
  - Offers views of donor/recipient relationships
- Time Series
- Geowiki
- Scalable

The IHME GIS Tool was built using ArcGIS Server, MS SQL Server and the ArcGIS API for Flex. ArcGIS Online services provide access to basemaps. .NET WCF technology was used to optimize the time series functionality.
Child Mortality vs. Total Aid Disbursements
Donor/Recipient Relationships
Child Mortality vs. GDP per Capita
Geowiki

Institute for Health Metrics and Evaluation

Choose Map Data:
- Child Mortality: Under Five
- Aid Commitments By Recipient

Choose a Data Table:
- Health
- Aid & GDP
- Country

Rwanda
- Aid Commitments by Donor
- 1993 Aid Commitments Received

Country | Committed (USD)
--- | ---
France | $1,915,300
Norway | $66,882
United States | $349,767

1993

Off World Physical Satellite

IHME GeoWiki

SHOW High aid commitments around

Author: Peter speyer@uw.edu
Posted: 2009-07-19

The highest aid commitments seem to go to countries around the Indian Ocean, i.e. to South Asia and Eastern and Southern Africa

SHOW Rwanda Aid

Author: Alex Philip ap hilp1@man.c
Posted: 2009-04-20

Interesting to compare disease and aid relationship with regard to internal, external, and transborder conflict for periods. Questions: to what
IHME GIS Tool

• Possible future developments
  – Additional datasets
  – Ability to upload/download data
  – Spatial analysis
  – Multiple layer overlay
  – Improved data selection
  – Integration of other types of data and media.

• What would you like to see in this tool?
Demo

- Institute for Health Metrics and Evaluation (IHME) - University of Washington
For more information...

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Also see the Winter 2009/2010 issue of HealthyGIS Newsletter for article titled “Institute Puts Health in Motion with Time-Sequence Maps”
Other Examples of GIS in Global Health

• H1N1 Surveillance
• Global Health Philanthropy
• MDG Tracking
• WHO HealthMapper
• HIV/AIDS Programs in Ethiopia
• SMS Texting and Smartphone Apps
H1N1 Surveillance

Community Contributions » Outbreak missing from the map? Help us by adding it:

- EITHER paste a news report URL: [URL]
- OR provide an eyewitness report: [Brief summary of event]

Latest alerts
- Confront fish disease outbreak regionally - The Southern Times
- Flu outbreak targeting the young - McCook Daily Gazette
- Meningitis confirmed at North Schuykill, but officials say case is ...
- News : Swine flu slams Morenci Schools/30 percent absent in high ...
- South Sudan finds no sign of feared Ebola outbreak - Reuters South ...
- Georgetown News-Graphic > Archives > Breaking News > ...
- Local cases testing positive for swine flu - NewsandSentinel.com | ...
- H1N1 hits here: ROHS students among first affected - Riley, WV ...
- 4th Swine Flu Death Confirmed in Cabell County

Legend
- Country level
- Province or local level
- Heat Index:
- Low
- High

Swine Flu: country by country

30 July 2009

Cases
- Confirmed: 177,699
- Deaths due to swine flu: 1,126

Source: WHO, ECDC, CPC, HPA (UK), governments
Africa

The majority of our work in health, poverty, and development is done in Africa.

To learn about selected grants or watch videos about our work, move your cursor over the pushpins on the map. To learn more about our work in this region, choose a topic below:

- Agricultural Development
- HIV/AIDS
- Malaria
- Maternal, Newborn, Child Health
- Tuberculosis
- Vaccines

Photo Gallery: Malaria

What is Malaria?
Learn who is at the greatest risk of malaria, the progress being made toward malaria control, and the work that still needs to be done to significantly reduce malaria deaths by 2015.

- View photo gallery
The HealthMapper is a surveillance and mapping application, developed by WHO, that aims to address critical surveillance information needs across infectious disease programmes at national and global levels.

The HealthMapper is a user-friendly data management and mapping system customized specifically for public health users. The system facilitates data standardization, collation and updating of data on epidemiology and on interventions and provides immediate visualization of data in the form of maps, tables and charts.

The HealthMapper also packages a database of core baseline geographic, demographic and health information, including the location of communities, health care and education facilities, accessibility by road, access to safe water and demography. The system is currently in operation to support a range of infectious diseases in over 60 countries in all regions of WHO. Key infectious disease programmes currently using the system include Roll Back Malaria, Lymphatic filariasis Elimination, Buruli Ulcer, Guinea worm Eradication, Onchocerciasis Control Programme, and Polio Eradication. In 2003, the system supported the implementation surveillance of HIV/AIDS/STIs (sexually transmitted infections), Tuberculosis, Control of Communicable Diseases in Complex Emergency Situations, Outbreak Alert and Response and Integrated Management of Childhood Illnesses.

- Frequently asked questions about the HealthMapper

HEALTHMAPPER DOWNLOAD
Organizations seek effective use of GIS in HIV/AIDS Programs

First pan-African conversation between NMAs and health sector leadership on establishing a community of practice around GIS and HIV/AIDS interventions.
Mobile technologies and rapid SMS…
Texting away malnutrition in Kenya

- United Nations Vodafone Foundation
- Millennium Village Program building cellular infrastructure
- GSMA and Bill and Melinda Gates Foundation partnership

*By 2020, the mobile phone is expected to be the primary connection tool for most people in the world*
EpiCollect: Linking Smartphones to Web Applications

Uses Google Maps/Earth, Android Open Source OS, spatialepidemiology.net and select smartphone models.