

## CONCLUSION

The Global Burden of Disease study provides detailed data on diseases, injuries, and risk factors that are essential inputs for evidence-based policymaking. This collaborative project shows that the world's health is undergoing rapid change.

The Global Burden of Diseases, Injuries, and Risk Factors Study 2010 (GBD 2010) identified major trends in global health that can be summarized by the three Ds: demographics, disease, and disability. As most countries have made great strides in reducing child mortality, people are living longer and the population is growing older. These demographic changes are driving up premature deaths and disability, or DALYs, from non-communicable diseases. Health problems are increasingly defined not by what kills us but by what ails us. In 1990, childhood underweight was the leading risk factor for ill health, but high body mass index surpassed it in 2010 as a more important cause of premature death and disability. This finding illustrates global shifts away from risk factors for communicable disease in children toward risk factors for non-communicable diseases.

GBD 2010 found that non-communicable diseases caused a greater share of health loss in 2010 than in 1990 in most regions of the world. At the same time, the study revealed that the leading causes of DALYs in sub-Saharan Africa have changed little over the past 20 years. Still, GBD 2010 provides evidence of encouraging progress in this region, such as reductions in mortality from malaria, HIV/AIDS, and maternal conditions.

In South Asia, GBD 2010 documented important regional trends that reveal substantial declines in health loss due to communicable, maternal, and childhood diseases; nonetheless, despite great progress, these conditions still topped many countries' health burdens. At the same time, most countries experienced an increasing disease burden due to non-communicable diseases from 1990 to 2010. This dual burden of communicable and non-communicable diseases was largely driven by India, which is the largest country in the region. Road injuries and self-harm were also dominant causes of premature death and disability in the region. For two countries, Afghanistan and Pakistan, an increase in health loss occurred due to past and ongoing war and civil unrest. Sri Lanka, a country that experienced a conflict from the early 1980s through 2009, showed a huge decrease in health loss due to interpersonal violence.

Risk factors such as suboptimal breastfeeding, vitamin deficiencies, and childhood underweight have declined substantially throughout South Asia, which has likely contributed to the regional progress in reducing health loss associated with several childhood conditions. However, dietary risks (e.g., lack of fruit or nuts) and smoking have become important threats to public health in many countries in South Asia.

While GBD 2010 provides key information about health trends at global and regional levels, its tools also allow users to view data specific to 187 countries. Similar to the ways in which governments use financial data to monitor economic trends and make necessary adjustments to ensure continued growth, decision-makers can use GBD data to inform health policy. Continual updates of GBD will incorporate the most recent data on disease patterns as well as the latest science about the effects of different risk factors on health.

Future updates of GBD will be enriched by widening the network of collaborators. Expanded collaboration between researchers, staffs of ministries of health, and IHME on national and subnational burden of disease studies will ensure that GBD tools are used to understand causes of premature death and disability at the community level. Despite similarities in epidemiological trends in most regions, GBD illustrates the unique patterns of diseases, injuries, and risk factors that exist in different countries. Local epidemiological assessment is crucial for informing local priorities. The GBD approach to health measurement can help guide the design of public health interventions to ensure they are tailored to countries' specific needs.

IHME is seeking partners interested in conducting in-depth studies of the burden of disease in countries. Through such partnerships, IHME is helping governments and donors gain insights into localized health trends to inform planning and policymaking. IHME is committed to building capacity for GBD analysis in countries around the world and will be conducting a variety of training workshops. Information on these workshops can be found at <http://www.healthmetricsandevaluation.org/gbd/training>.

GBD data visualization tools can display regional and national data from burden of disease studies. These user-friendly tools are helpful for planning, presentations, and educational purposes. Also, IHME has designed a variety of data visualization tools to compare trends between various raw data sources at the national level. By visualizing all available data, ministry of health officials and researchers can quickly identify unexpected trends in the data that they may wish to flag for further investigation.

Currently, IHME is working to expand GBD to track expenditure for particular diseases and injuries. Also, IHME is estimating utilization of outpatient and inpatient facilities and other health services for specific diseases and injuries. Side-by-side comparisons of these estimates with the number of DALYs from myriad causes will allow decision-makers to evaluate health system priorities. Data on disease-specific expenditure and disease burden are essential for policymakers facing difficult decisions about how to allocate limited resources.