USING GBD TO ASSESS COUNTRIES' HEALTH PROGRESS

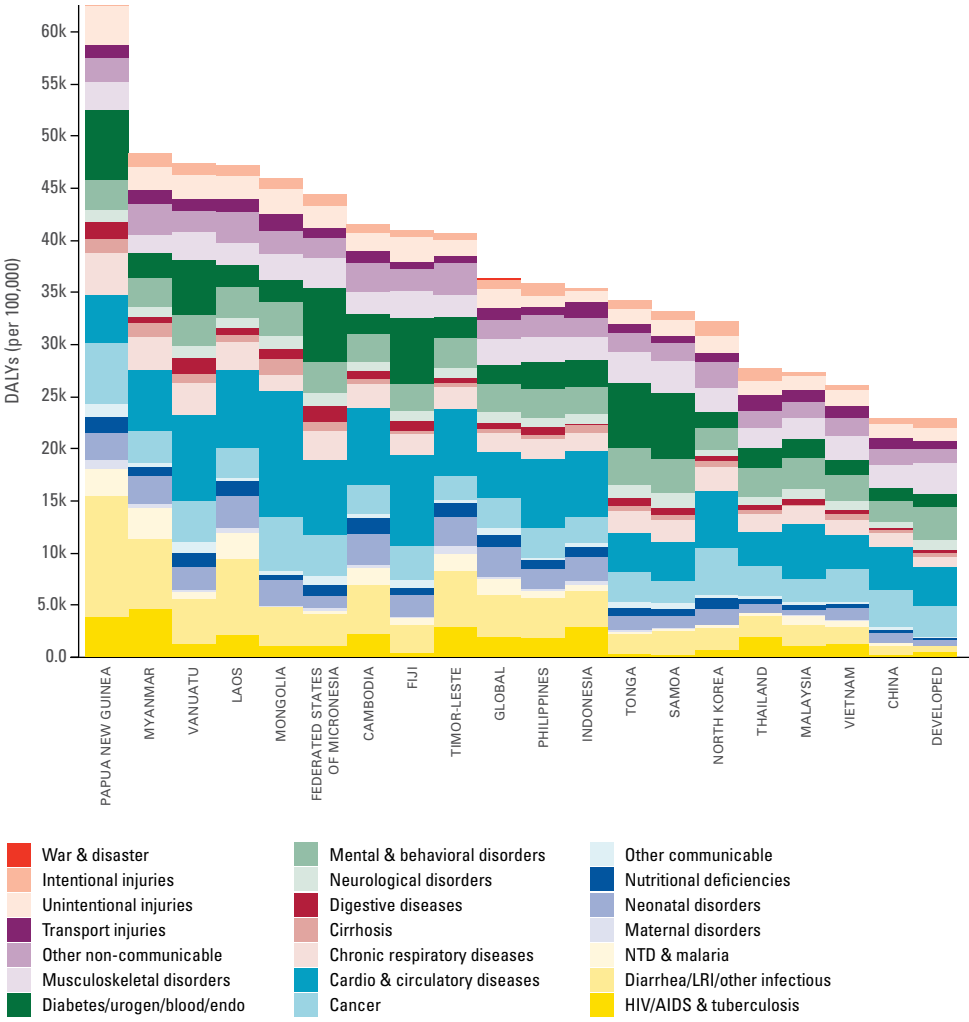
GBD found that factors such as population growth, longer lives, and decreasing mortality are driving up the years of healthy life lost, or DALYs, from non-communicable diseases in many countries. Although non-communicable diseases are increasing relative to other health problems as a result of these demographic changes, GBD found that many countries are actually showing improvements in health as measured by age-standardized DALY rates.

Differences in population growth and ages across countries can make a country with a younger population appear better in terms of health performance than a country with an older population. Similarly, countries with low population growth will add less disease burden over time than countries with a fast-growing population. Researchers can remove the impact of these factors to isolate what is important for comparisons of health performance using age-standardized rates of DALYs and YLLs, or years of life lost.

For example, many countries in the East Asia and Pacific region have made steady progress in reducing age-standardized DALY rates from lower respiratory infections, tuberculosis, neonatal disorders such as preterm birth complications and neonatal encephalopathy, and diarrheal diseases. Countries including China and Vietnam made progress in reducing age-standardized rates of non-communicable diseases including stroke and cirrhosis, and age-standardized rates of cervical cancer dropped in Thailand between 2000 and 2005. However, rates of ischemic heart disease and lung cancer rose in many countries in the region. Most countries in the region made little or no progress in causes such as low back pain and depression. To explore age-standardized rates of diseases and injuries at the country level between 1990 and 2010, visit IHME's data visualization tools at www.ihmeuw.org/GBDcountryviz.

GBD can be used to compare and contrast disease patterns across countries. Figure 21 shows causes of age-standardized DALYs per 100,000 people. Many countries in East Asia and Pacific had rates of DALYs from communicable, newborn, nutritional, and maternal conditions that were lower than all countries of the world as a whole. Low- and lower-middle-income countries including Cambodia, Indonesia, Laos, Myanmar, Papua New Guinea, Timor-Leste, and Vanuatu had the highest age-standardized rates of communicable, newborn, nutritional, and maternal conditions of all the countries shown in Figure 21. Fiji, the Federated States of Micronesia, Papua New Guinea, Samoa, Tonga, and Vanuatu stood out as countries with high age-standardized rates of diabetes, urogenital, blood, and endocrine disorders, while Cambodia, Fiji, and Mongolia had elevated levels of cardiac and circulatory diseases. Compared to other countries shown in Figure 21, upper-middle-income countries such as China, Malaysia, and Thailand and lower-middle-income Vietnam had age-standardized rates of total DALYs that were closer to rates seen in developed countries.

Figure 21: Age-standardized DALY rates across select countries in East Asia and Pacific, 2010



Note: The size of the colored portion in each bar represents the number of age-standardized DALYs per 100,000 people attributable to each cause. The causes are aggregated. For example, musculoskeletal disorders include low back pain and neck pain. To view an interactive version of this figure, visit IHME's website: http://ihmeuw.org/gbdcausepattern.

The GBD approach affords countries a unique opportunity to explore their success in improving health outcomes over time. GBD can also be used to better understand how fast a country's health is improving relative to similar countries. This type of progress assessment is called benchmarking. Benchmarking is a tool that can help countries put their health achievements in context and identify areas for improvement. IHME invites countries interested in collaborating on benchmarking exercises to contact us.

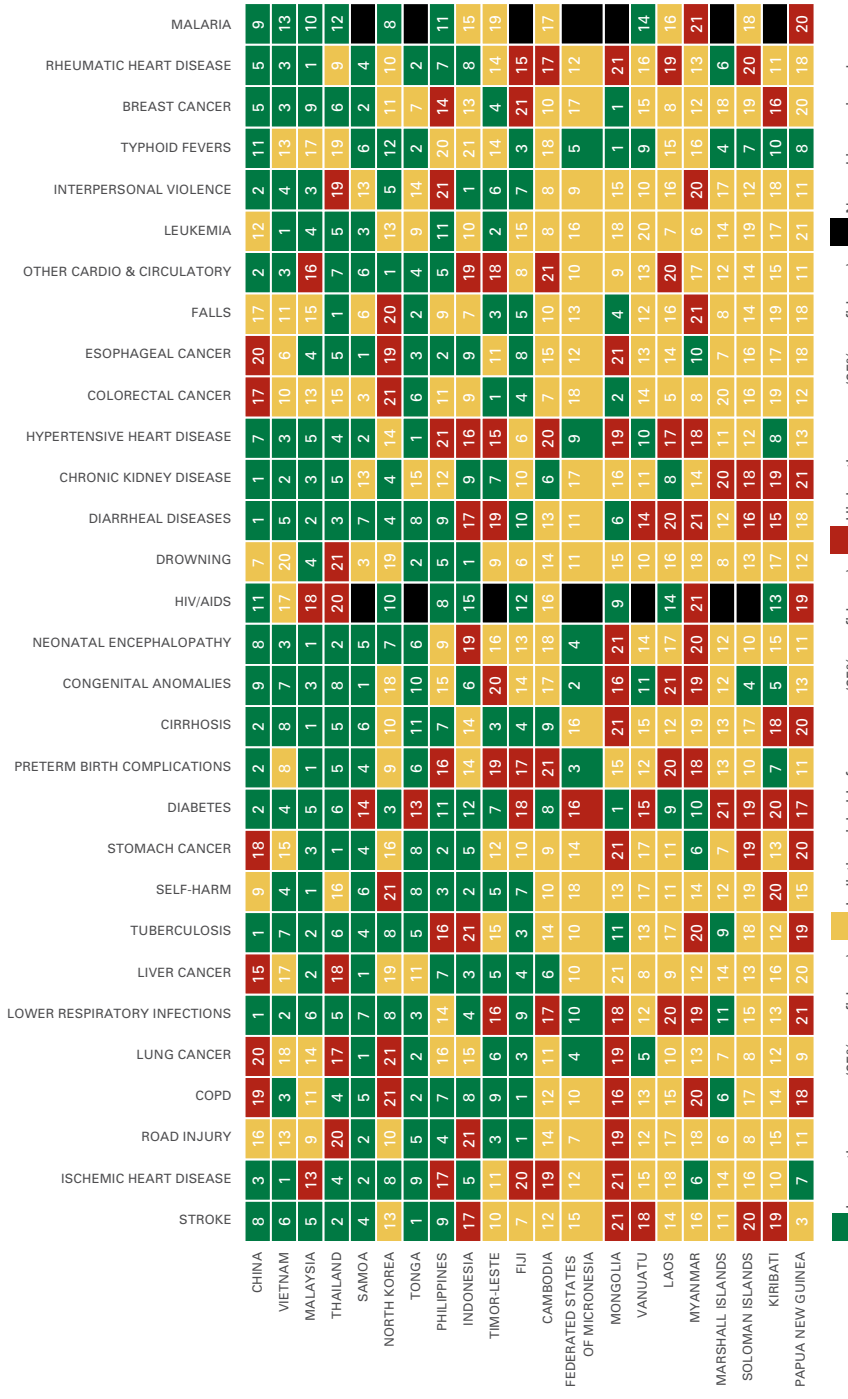
As an example of a benchmarking exercise, Figure 22 ranks levels of premature mortality or years of life lost in East Asia and Pacific countries in 2010. The columns are arranged by the top 30 causes of years of life lost in the region. The countries are ordered according to levels of premature mortality. For each cause, rankings are color-coded to reflect each country's level of age-standardized years of life lost relative to the others. The best performers for each cause are in green while the worst performers for each cause appear in red. Yellow shading indicates that the ranking for a particular country is not statistically significant from the regional average. Black indicates no ranking was assigned due to zero YLLs from a given cause.

Figure 22 can be used to compare the performance of East Asia and Pacific countries and can help countries identify priority areas for improvement. For example, Malaysia performed better than the regional average for most causes of premature death, but performed poorly in areas such as ischemic heart disease, HIV/AIDS, and other cardiovascular and circulatory diseases. Thailand was a top performer in the region for causes including stroke, stomach cancer, neonatal encephalopathy, and falls, but ranked near the bottom for road injury, lung cancer, liver cancer, HIV/AIDS, drowning, and interpersonal violence. Country comparisons can be used for selecting case studies to understand why performance differs across countries. For example, case studies could potentially reveal why Vietnam performed much better than most of its lower-income counterparts in many disease areas.

To further illustrate how benchmarking can be implemented at the country level, IHME is currently working with public health experts in the UK to explore changes in population health over time and to compare its health performance to other countries with similar and higher levels of health spending. Through close collaboration with decision-makers at the National Health Service and Public Health England, the IHME-UK benchmarking project is examining the context in which health progress has occurred, such as the UK's provision of universal health coverage and its implementation of numerous public health interventions.

For the UK, GBD estimates of life expectancy and healthy life expectancy (HALE), years lost due to premature death (YLLs), years lived with disability (YLDs), and healthy years lost (DALYs) will provide a detailed and comprehensive picture of changes in health outcomes over time. Comparing GBD estimates across countries will elucidate areas of health where the UK performs both better and worse than its peers. In addition, analysis of potentially modifiable risk factors can shed light on ways that public health policy could address major causes of ill health and premature death. The IHME-UK benchmarking study aims to identify key opportunities to speed up the pace of health improvements in the nation.

Figure 22: Causes of leading years of life lost, East Asia and Pacific countries relative to regional average, 2010



Note: The columns are ordered by the absolute number of YLLs for that particular year. The numbers indicate the rank across countries for each cause in terms of age-standardized YLL rates, with 1 as the best performance and 21 as the worst.