GLOBAL BURDEN OF DISEASES, INJURIES, AND RISK FACTORS STUDY 2010

The Global Burden of Disease Study 2010 (GBD 2010) is a collaborative project of nearly 500 researchers in 50 countries led by the Institute for Health Metrics and Evaluation (IHME) at the University of Washington. It is the largest systematic scientific effort in history to quantify levels and trends of health loss due to diseases, injuries, and risk factors. GBD serves as a global public good to inform evidence-based policymaking and health systems design.

PROFILE OVERVIEW

- In terms of the number of years of life lost (YLLs) due to premature death in Barbados, ischemic heart disease, diabetes mellitus, and cerebrovascular disease were the highest ranking causes in 2010.
- Of the 25 most important causes of burden, as measured by disability-adjusted life years (DALYs), preterm birth complications showed the largest decrease, falling by 60% from 1990 to 2010.
- The leading risk factor in Barbados is high body-mass index.

ALL-CAUSE MORTALITY RATE

- This chart shows the change in mortality rate at every age range. The points above 0 on the chart indicate positive declines in the all-cause mortality rate, while points below 0 indicate an increase in mortality rate between 1990 and 2010.
- The greatest reductions in all-cause mortality rate were experienced by females aged 1-4 years (52%). Males aged 30-34 years saw the largest increase in mortality rate (41%).

CAUSES OF PREMATURE DEATH

Years of life lost (YLLs) quantify premature mortality by weighting younger deaths more than older deaths.

For the top 25 causes of YLLs from 1990 to 2010 in Barbados, the chart shows the change in mortality rate by sex from 1990-2010 in Barbados.

This chart shows the change in the top 25 causes of YLLs due to premature mortality from 1990 to 2010. Solid lines indicate a cause has moved up in rank or stayed the same. Broken lines indicate a cause has moved down in rank. The causes are color coded by blue for communicable, maternal, neonatal, and nutritional causes of death, green for injuries, and red for non-communicable diseases. The causes are ranked by blue for communicable, maternal, neonatal, and nutritional causes of death.
YEARS LIVED WITH DISABILITY (YLDs)

Years lived with disability (YLDs) are estimated by weighting the prevalence of different conditions based on severity. The top five leading causes of YLDs in Barbados are major depressive disorder, low back pain, diabetes mellitus, iron-deficiency anemia, and adverse effects of medical treatment.

The size of the colored portion in each bar represents the number of YLDs attributable to each cause. The height of each bar shows which age groups had the most YLDs in 2010. The causes are aggregated. For example, musculoskeletal disorders include low back pain and neck pain.

DISABILITY-ADJUSTED LIFE YEARS (DALYs)

Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Barbados, the top three causes of DALYs in 2010 were diabetes mellitus, ischemic heart disease, and cerebrovascular disease. Two causes that appeared in the 10 leading causes of DALYs in 2010 and not 1990 were road injury and adverse effects of medical treatment.

The top 25 causes of DALYs are ranked from left to right in order of the number of DALYs they contributed in 2010. Bars going up show the percent by which DALYs have increased since 1990. Bars going down show the percent by which DALYs have decreased. Globally, non-communicable diseases and injuries are generally on the rise, while communicable, maternal, neonatal, and nutritional causes of DALYs are generally on the decline.
RISK FACTORS

Overall, the three risk factors that account for the most disease burden in Barbados are high body-mass index, dietary risks, and high blood pressure. The leading risk factors for children under 5 and adults aged 15-49 years were suboptimal breastfeeding and alcohol use, respectively, in 2010.

The graph shows the top 15 risk factors for Barbados. The colored portion of each bar represents the specific diseases attributable to that risk factor while bar size represents the percentage of DALYs linked to specific risk factors.

COUNTRY BENCHMARKING OF BURDEN OF DISEASE

Understanding the relative performance of Barbados against other comparator countries provides key insight into public health successes and areas where Barbados might be falling behind. The table identifies Barbados’ rank across 14 other comparator countries, selected and ordered by income per capita, for five metrics of interest, with 1 indicating the best rank and 15 indicating the worst rank.

- Age-standardized rates are used to make meaningful comparisons across time by adjusting for changes in population size and age structure.
- Life expectancy incorporates mortality, and health-adjusted life expectancy further incorporates years lived in less than ideal health.
- In 2010, Barbados ranked 8th for age-standardized death rate and 13th for age-standardized YLD rate.
COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of Barbados relative to the same comparator countries for the leading causes of DALYs in 1990 (top) and 2010 (bottom).

- The columns are ordered by the absolute number of DALYs in Barbados for that particular year, with greatest burden on the left.
- The numbers indicate the rank across countries for each cause in terms of age-standardized DALY rates, with 1 as the best performance and 15 as the worst.

### Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to comparator countries in 1990

<table>
<thead>
<tr>
<th>Country</th>
<th>Ischemic heart disease</th>
<th>Diabetes</th>
<th>Stroke</th>
<th>Major depressive disorder</th>
<th>Lower respiratory infections</th>
<th>Neonatal complications</th>
<th>HIV/AIDS</th>
<th>Neuronal cell death</th>
<th>Congenital anomalies</th>
<th>Road injury</th>
<th>Anxiety disorders</th>
<th>Other chronic disease</th>
<th>Drug use disorders</th>
<th>Neck pain</th>
<th>Intervertebral disk disorders</th>
<th>COPD</th>
<th>Falls</th>
<th>Breast cancer</th>
<th>Migraine</th>
<th>Prostate cancer</th>
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