METHODS

The analytical strategy of GBD

The GBD approach contains 18 distinct components, as outlined in Figure A1. The components of GBD are interconnected. For example, when new data is incorporated into the age-specific mortality rates analysis (component 2), other dependent components must also be updated, such as rescaling deaths for each cause (component 5); healthy life expectancy, or HALE (component 12); years of life lost, or YLLs (component 13); and estimation of YLLs attributable to each risk factor (component 18). The inner workings of key components are briefly described in this publication, and more detailed descriptions of each component are included in the published articles.

Estimating age- and sex-specific mortality

Researchers identified sources of under-5 and adult mortality data from vital and sample registration systems as well as from surveys that ask mothers about live births and deaths of their children and ask people about siblings and their survival. Researchers processed that data to address biases and estimated the probability of death between ages 0 and 5 and ages 15 and 60 using statistical models. Finally, researchers used these probability estimates as well as a model life table system to estimate age-specific mortality rates by sex between 1970 and 2010.

Figure A1: The 18 components of GBD and their interrelations
**Estimating years lost due to premature death**

Researchers compiled all available data on causes of death from 187 countries. Information about causes of death was derived from vital registration systems, mortality surveillance systems, censuses, surveys, hospital records, police records, mortuaries, and verbal autopsies. Verbal autopsies are surveys that collect information from individuals familiar with the deceased about the signs and symptoms the person had prior to death. GBD 2010 researchers closely examined the completeness of the data. For those countries where cause of death data were incomplete, researchers used statistical techniques to compensate for the inherent biases. They also standardized causes of death across different data sources by mapping different versions of the International Classification of Diseases coding system to the GBD cause list.

Next, researchers examined the accuracy of the data, scouring rows and rows of data for “garbage codes.” Garbage codes are misclassifications of death in the data, and researchers identified thousands of them. Some garbage codes are instances where we know the cause listed cannot possibly lead to death. Examples found in records include “abdominal rigidity,” “senility,” and “yellow nail syndrome.” To correct these, researchers drew on evidence from medical literature, expert judgment, and statistical techniques to reassign each of these to more probable causes of death.

![Figure A2: Leading causes of death and premature death in East Asia and Pacific, 2010](image-url)
After addressing data-quality issues, researchers used a variety of statistical models to determine the number of deaths from each cause. This approach, named CODEm (for Cause of Death Ensemble modeling), was designed based on statistical techniques called “ensemble modeling.” Ensemble modeling was made famous by the recipients of the Netflix Prize in 2009, BellKor’s Pragmatic Chaos, who engineered the best algorithm to predict how much a person would like a film, taking into account their movie preferences.

To ensure that the number of deaths from each cause does not exceed the total number of deaths estimated in a separate GBD demographic analysis, researchers apply a correction technique named CoDCorrect. This technique makes certain that estimates of the number of deaths from each cause do not add up to more than 100% of deaths in a given year.

After producing estimates of the number of deaths from each of the 235 fatal outcomes included in the GBD cause list, researchers then calculated years of life lost to premature death, or YLLs. For every death from a particular cause, researchers estimated the number of years lost based on the highest life expectancy in the deceased’s age group. For example, if a 20-year-old male died in a car accident in Cambodia in 2010, he has 66 years of life lost, that is, the highest remaining life expectancy in 20-year-olds, as experienced by 20-year-old females in Japan.

When comparing rankings of the leading causes of death versus YLLs, YLLs place more weight on the causes of death that occur in younger age groups, as shown in Figure A2. For example, road injury represents a greater percentage of total YLLs than total deaths since it is a leading killer of young men. Ischemic heart disease, by contrast, accounts for a smaller percentage of total YLLs than total deaths as it primarily kills older people.

**Estimating years lived with disability**

Researchers estimated the prevalence of each sequela using different sources of data, including government reports of cases of infectious diseases, data from population-based disease registries for conditions such as cancers and chronic kidney diseases, antenatal clinic data, hospital discharge data, data from outpatient facilities, interview questions, and direct measurements of hearing, vision, and lung function testing from surveys and other sources.

Confronted with the challenge of data gaps in many regions and for numerous types of sequelae, they developed a statistical modeling tool named DisMod-MR (for Disease Modeling – Metaregression) to estimate prevalence using available data on incidence, prevalence, remission, duration, and extra risk of mortality due to the disease.

Researchers estimated disability weights using data collected from almost 14,000 respondents via household surveys in Bangladesh, Indonesia, Peru, Tanzania, and the United States. Disability weights measure the severity of different sequelae that
result from disease and injury. Data were also used from an Internet survey of more than 16,000 people. GBD researchers presented different lay definitions of sequelae grouped into 220 unique health states to survey respondents, and respondents were then asked to rate the severity of the different health states. The results were similar across all surveys despite cultural and socioeconomic differences. Respondents consistently placed health states such as mild hearing loss and long-term treated fractures at the low end of the severity scale, while they ranked acute schizophrenia and severe multiple sclerosis as very severe.

Finally, years lived with disability, or YLDs, are calculated as prevalence of a sequela multiplied by the disability weight for that sequela. The number of years lived with disability for a specific disease or injury are calculated as the sum of the YLDs from each sequela arising from that cause.

**Estimating disability-adjusted life years**

DALYs are calculated by adding together YLLs and YLDs. Figure A3 compares the 10 leading diseases and injuries calculated as percentages of both deaths and DALYs in East Asia and Pacific. This figure also shows the top 10 risk factors attributable to deaths and DALYs worldwide. It illustrates how a decision-maker looking only at the top 10 causes of death would fail to see the importance of low back pain and depression, for example, which were leading causes of DALYs in 2010. DALYs are a powerful tool for priority setting as they measure disease burden from non-fatal as well as fatal conditions.

**Estimating DALYs attributable to risk factors**

To estimate the number of healthy years lost, or DALYs, attributable to potentially avoidable risk factors, researchers collected detailed data on exposure to different risk factors. The study used data from sources such as satellite data on air pollution, breastfeeding data from population surveys, and blood and bone lead levels from medical examination surveys and epidemiological surveys. Researchers then collected data on the effects of risk factors on disease outcomes through systematic reviews of epidemiological studies.

All risk factors analyzed met common criteria in four areas:

1. The likely importance of a risk factor for policymaking or disease burden.
2. Availability of sufficient data to estimate exposure to a particular risk factor.
3. Rigorous scientific evidence that specific risk factors cause certain diseases and injuries.
4. Scientific findings about the effects of different risk factors that are relevant for the general population.
To calculate the number of DALYs attributable to different risk factors, researchers compared the disease burden in a group exposed to a risk factor to the disease burden in a group that had zero exposure to that risk factor. When subjects with zero exposure were impossible to find, as in the case of high blood pressure, for example, researchers established a level of minimum exposure that leads to the best health outcomes.

Figure A3: The 10 leading diseases and injuries and 10 leading risk factors based on percentage of deaths and DALYs in East Asia and Pacific, 2010

Note: This figure compares the percent of DALYs and deaths attributable to different diseases and injuries (shown in blue) as well as risk factors (shown in red). Certain causes, such as low-back pain, cause substantial numbers of DALYs, but cause few deaths. DALYs are an important tool for decision-makers because they capture years of healthy life lost from both fatal and non-fatal causes.
<table>
<thead>
<tr>
<th>Country</th>
<th>Age-standardized death rate (per 100,000)</th>
<th>Age-standardized YLL rate (per 100,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1990</td>
<td>2010</td>
</tr>
<tr>
<td></td>
<td>Rate Rank</td>
<td>Rate Rank</td>
</tr>
<tr>
<td>Cambodia</td>
<td>1,355 (1,296-1,426)</td>
<td>14 (13-16)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>896 (859-944)</td>
<td>5 (3-7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiji</td>
<td>1,184 (1,044-1,291)</td>
<td>10 (9-13)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>1,033 (1,005-1,062)</td>
<td>8 (6-9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kiribati</td>
<td>1,879 (1,713-2,011)</td>
<td>20 (18-21)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laos</td>
<td>1,532 (1,235-1,867)</td>
<td>17 (11-21)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>825 (817-831)</td>
<td>2 (2-3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>1,270 (1,204-1,340)</td>
<td>12 (11-15)</td>
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<tr>
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<td></td>
</tr>
<tr>
<td>Federated States of</td>
<td>1,476 (1,226-1,760)</td>
<td>15 (12-19)</td>
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<tr>
<td>Micronesia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mongolia</td>
<td>1,283 (1,226-1,334)</td>
<td>13 (11-15)</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Myanmar</td>
<td>1,640 (1,317-2,192)</td>
<td>18 (14-21)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Korea</td>
<td>895 (806-996)</td>
<td>4 (2-7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>1,990 (1,552-2,531)</td>
<td>21 (18-21)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>909 (689-928)</td>
<td>7 (4-7)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samoa</td>
<td>1,088 (979-1,225)</td>
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<tr>
<td></td>
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<tr>
<td>Solomon Islands</td>
<td>1,707 (1,360-2,295)</td>
<td>19 (15-21)</td>
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<tr>
<td></td>
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</tr>
<tr>
<td>Thailand</td>
<td>712 (694-734)</td>
<td>1 (1-1)</td>
</tr>
<tr>
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</tr>
<tr>
<td>Timor-Leste</td>
<td>1,223 (1,141-1,330)</td>
<td>11 (10-14)</td>
</tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>Tonga</td>
<td>914 (828-990)</td>
<td>6 (3-7)</td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td>Vanuatu</td>
<td>1,507 (1,229-1,830)</td>
<td>16 (12-19)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vietnam</td>
<td>876 (832-931)</td>
<td>3 (3-7)</td>
</tr>
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</table>
### Age-standardized YLD rate (per 100,000)

<table>
<thead>
<tr>
<th>Country</th>
<th>1990 YLD Rate (1,317-2,192)</th>
<th>2010 YLD Rate (1,226-1,334)</th>
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</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>11,940</td>
<td>10,904</td>
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<tr>
<td>Papua New Guinea</td>
<td>12,650</td>
<td>11,040</td>
</tr>
<tr>
<td>Thailand</td>
<td>13,180</td>
<td>13,180</td>
</tr>
<tr>
<td>Vietnam</td>
<td>13,800</td>
<td>14,100</td>
</tr>
<tr>
<td>Laos</td>
<td>14,500</td>
<td>14,900</td>
</tr>
</tbody>
</table>

### Life expectancy at birth

<table>
<thead>
<tr>
<th>Country</th>
<th>1990 LE Rank (58.5-59.9)</th>
<th>2010 LE Rank (65.7-68.4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Thailand</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Vietnam</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td>Laos</td>
<td>10</td>
<td>14</td>
</tr>
</tbody>
</table>

### Health-adjusted life expectancy at birth

<table>
<thead>
<tr>
<th>Country</th>
<th>1990 HALE Rank (58.5-59.9)</th>
<th>2010 HALE Rank (57.4-61.3)</th>
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</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Thailand</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Vietnam</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Laos</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

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55 | GBD 2010
CHANGES IN LEADING CAUSES OF DALYS BETWEEN 1990 AND 2010 FOR COUNTRIES IN EAST ASIA AND PACIFIC

In the following figures, pointed arrows indicate causes that have increased by a greater amount than shown on the x-axis. For more country data, explore IHME’s data visualization tools online: www.ihmeuw.org/GBDcountryviz

Shifts in leading causes of DALYs in Cambodia, 1990-2010
Shifts in leading causes of DALYs in China, 1990-2010

Shifts in leading causes of DALYs in Fiji, 1990-2010
Shifts in leading causes of DALYs in Indonesia, 1990-2010

Shifts in leading causes of DALYs in Kiribati, 1990-2010
Shifts in leading causes of DALYs in Laos, 1990-2010

- LOWER RESPIRATORY INFECTIONS
- DIARRHEAL DISEASES
- CONGENITAL ANOMALIES
- PRETERM BIRTH COMPLICATIONS
- TUBERCULOSIS
- MAJOR DEPRESSIVE DISORDER
- ROAD INJURY
- NEONATAL ENCEPHALOPATHY
- IRON-DEFICIENCY ANEMIA
- COPD
- LOW BACK PAIN
- DIABETES
- MIGRAINE
- ASTHMA
- DIABETES
- MALIGNANT MELANOMA
- SELF-HARM
- INTERPERSONAL VIOLENCE
- PROTEIN-ENERGY MALNUTRITION
- MALARIA

Shifts in leading causes of DALYs in Malaysia, 1990-2010

- ISCHEMIC HEART DISEASE
- STROKE
- MAJOR DEPRESSIVE DISORDER
- LOWER RESPIRATORY INFECTIONS
- HIV/AIDS
- COPD
- ROAD INJURY
- LOW BACK PAIN
- DIABETES
- OTHER MUSCULOSKELETAL
- FALLS
- NECK PAIN
- OTHER TRANSPORT INJURIES
- MIGRAINE
- ASTHMA
- TRICHURIASIS
- LUNG CANCER
- IRON-DEFICIENCY ANEMIA
- CONGENITAL ANOMALIES
Shifts in leading causes of DALYs in the Marshall Islands, 1990-2010

1. DIABETES
2. ISCHEMIC HEART DISEASE
3. STROKE
4. MAJOR DEPRESSIVE DISORDER
5. TUBERCULOSIS
6. CHRONIC KIDNEY DISEASE
7. LOW BACK PAIN
8. ROAD INJURY
9. CONGENITAL ANOMALIES
10. OTHER MUSCULOSKELETAL
11. DRUG USE DISORDERS
12. ASTHMA
13. COPD
14. TRICHURIASIS
15. IRON-DEFICIENCY ANEMIA

Shifts in leading causes of DALYs in the Federated States of Micronesia, 1990-2010

1. DIABETES
2. ISCHEMIC HEART DISEASE
3. STROKE
4. MAJOR DEPRESSIVE DISORDER
5. TUBERCULOSIS
6. CHRONIC KIDNEY DISEASE
7. LOW BACK PAIN
8. ROAD INJURY
9. CONGENITAL ANOMALIES
10. OTHER MUSCULOSKELETAL
11. DRUG USE DISORDERS
12. ASTHMA
13. COPD
14. TRICHURIASIS
15. IRON-DEFICIENCY ANEMIA
Shifts in leading causes of DALYs in Mongolia, 1990-2010

- ISCHEMIC HEART DISEASE
- LOWER RESPIRATORY INFECTIONS
- STROKE
- NEONATAL ENCEPHALOPATHY
- ROAD INJURY
- CIRRHOSIS
- PRETERM BIRTH COMPLICATIONS
- LIVER CANCER
- CONGENITAL ANOMALIES
- MAJOR DEPRESSIVE DISORDER
- TUBERCULOSIS
- LOW BACK PAIN
- COPD
- CHRONIC RENAL DISEASE
- ALCOHOL USE DISORDERS
- STOMACH CANCER
- SELF-HARM
- RHEUMATIC HEART DISEASE
- INTERPERSONAL VIOLENCE
- MECHANICAL FORCES

Shifts in leading causes of DALYs in Myanmar, 1990-2010

- LOWER RESPIRATORY INFECTIONS
- TUBERCULOSIS
- DIARRHEAL DISEASES
- HIV/AIDS
- STROKE
- MALARIA
- COPD
- ISCHEMIC HEART DISEASE
- ROAD INJURY
- CIRRHOSIS
- NEONATAL ENCEPHALOPATHY
- MAJOR DEPRESSIVE DISORDER
- CONGENITAL ANOMALIES
- PRETERM BIRTH COMPLICATIONS
- DIABETES
- INTERPERSONAL VIOLENCE
- ASTHMA
- FALLS
- LOW BACK PAIN
- SELF-HARM
Shifts in leading causes of DALYs in North Korea, 1990-2010

1. STROKE
2. COPD
3. ISCHEMIC HEART DISEASE
4. LOWER RESPIRATORY INFECTIONS
5. SELF-HARM
6. LOW BACK PAIN
7. LUNG CANCER
8. LIVER CANCER
9. ROAD INJURY
10. CONGENITAL ANOMALIES
11. TUBERCULOSIS
12. IRON-DEFICIENCY ANEMIA
13. CIRRHOSIS
14. DIABETES
15. MAJOR DEPRESSIVE DISORDER
16. FALLS
17. NECK PAIN
18. OTHER MUSCULOSKELETAL
19. PRETERM BIRTH COMPLICATIONS
20. CHRONIC KIDNEY DISEASE

Shifts in leading causes of DALYs in Papua New Guinea, 1990-2010

1. LOWER RESPIRATORY INFECTIONS
2. DIABETES
3. TUBERCULOSIS
4. DIARRHEAL DISEASES
5. MALARIA
6. HIV/AIDS
7. PRETERM BIRTH COMPLICATIONS
8. MENINGITIS
9. ASTHMA
10. CHRONIC KIDNEY DISEASE
11. MAJOR DEPRESSIVE DISORDER
12. ISCHEMIC HEART DISEASE
13. CIRRHOSIS
14. ROAD INJURY
15. LOW BACK PAIN
16. CONGENITAL ANOMALIES
17. POISONINGS
18. COPD
19. MATERNAL DISORDERS
20. IRON-DEFICIENCY ANEMIA
Shifts in leading causes of DALYs in the Philippines, 1990-2010

- Lower Respiratory Infections
  - Ischemic Heart Disease
  - Tuberculosis
  - Stroke
  - Preterm Birth Complications
  - Low Back Pain
  - Major Depressive Disorder
  - Interpersonal Violence
  - Congenital Anomalies
  - COPD
  - Diabetes
  - Iron-Deficiency Anemia
  - Road Injury
  - Neonatal Encephalopathy
  - Diarrheal Diseases
  - Chronic Kidney Disease
  - Asthma
  - Hypertensive Heart Disease
  - Neck Pain
  - Migraine

Shifts in leading causes of DALYs in Samoa, 1990-2010

- Lower Respiratory Infections
  - Diabetes
  - Ischemic Heart Disease
  - Stroke
  - Low Back Pain
  - Major Depressive Disorder
  - Other Musculoskeletal
  - COPD
  - Asthma
  - Drug Use Disorders
  - Road Injury
  - Preterm Birth Complications
  - Chronic Kidney Disease
  - Iron-Deficiency Anemia
  - Interpersonal Violence
  - Falls
  - Neck Pain
  - CIRRHOSIS
  - Diarrheal Diseases
Shifts in leading causes of DALYs in the Solomon Islands, 1990-2010

1. DIABETES
2. STROKE
3. ISCHEMIC HEART DISEASE
4. TUBERCULOSIS
5. PRETERM BIRTH COMPLICATIONS
6. ASTHMA
7. LOW BACK PAIN
8. ROAD INJURY
9. COPD
10. NEONATAL ENCEPHALOPATHY
11. MENSINGITIS
12. MAJOR DEPRESSIVE DISORDER
13. DIARRHEAL DISEASES
14. PROTEIN-ENERGY MALNUTRITION
15. MALARIA
16. SELF-HARM
17. CIRRHOSIS
18. CHRONIC KIDNEY DISEASE
19. IRON-DEFICIENCY ANEMIA

Shifts in leading causes of DALYs in Thailand, 1990-2010

1. HIV/AIDS
2. ISCHEMIC HEART DISEASE
3. ROAD INJURY
4. STROKE
5. LOWER RESPIRATORY INFECTIONS
6. MAJOR DEPRESSIVE DISORDER
7. LIVER CANCER
8. LOW BACK PAIN
9. DIABETES
10. COPD
11. SELF-HARM
12. LUNG CANCER
13. INTERPERSONAL VIOLENCE
14. CIRRHOSIS
15. CHRONIC KIDNEY DISEASE
16. OTHER MUSCULOSKELETAL
17. DROWNING
18. NECK PAIN
19. TUBERCULOSIS
20. MIGRAINE
Shifts in leading causes of DALYs in Timor-Leste, 1990-2010

- Rank 1: Lower Respiratory Infections
- Rank 2: Diarrheal Diseases
- Rank 3: Preterm Birth Complications
- Rank 4: Congenital Anomalies
- Rank 5: Tuberculosis
- Rank 6: Ischemic Heart Disease
- Rank 7: Neonatal Encephalopathy
- Rank 8: Stroke
- Rank 9: Major Depressive Disorder
- Rank 10: Iron-Deficiency Anemia
- Rank 11: Malaria
- Rank 12: Meningitis
- Rank 13: Protein-Energy Malnutrition
- Rank 14: Low Back Pain
- Rank 15: Road Injury
- Rank 16: COPD
- Rank 17: Maternal Disorders
- Rank 18: Asthma
- Rank 19: Diabetes
- Rank 20: Drowning

Shifts in leading causes of DALYs in Tonga, 1990-2010

- Rank 1: Diabetes
- Rank 2: Ischemic Heart Disease
- Rank 3: Lower Respiratory Infections
- Rank 4: Low Back Pain
- Rank 5: Major Depressive Disorder
- Rank 6: Stroke
- Rank 7: Asthma
- Rank 8: Drug Use Disorders
- Rank 9: Other Musculoskeletal
- Rank 10: Road Injury
- Rank 11: Congenital Anomalies
- Rank 12: COPD
- Rank 13: Iron-Deficiency Anemia
- Rank 14: Chronic Kidney Disease
- Rank 15: Meningitis
- Rank 16: Diarrheal Diseases
- Rank 17: Interpersonal Violence
- Rank 18: Cirrhosis
- Rank 19: Neck Pain
Shifts in leading causes of DALYs in Vanuatu, 1990-2010

- STROKE
- DIABETES
- LOWER RESPIRATORY INFECTIONS
- ISCHEMIC HEART DISEASE
- PRETERM BIRTH COMPLICATIONS
- DIARRHEAL DISEASES
- ROAD INJURY
- TUBERCULOSIS
- LOW BACK PAIN
- ASTHMA
- MAJOR DEPRESSIVE DISORDER
- NEONATAL ENCEPHALOPATHY
- COPD
- PROTEIN-ENERGY MALNUTRITION
- MENINGITIS
- IRON-DEFICIENCY ANEMIA
- CONGENITAL ANOMALIES
- SELF-HARM
- CIRRHOSIS
- OTHER MUSCULOSKELETAL

Shifts in leading causes of DALYs in Vietnam, 1990-2010

- STROKE
- ROAD INJURY
- LOW BACK PAIN
- MAJOR DEPRESSIVE DISORDER
- COPD
- HIV/AIDS
- LOWER RESPIRATORY INFECTIONS
- LIVER CANCER
- ISCHEMIC HEART DISEASE
- TUBERCULOSIS
- CIRRHOSIS
- LUNG CANCER
- NECK PAIN
- DIABETES
- DROWNING
- FALLS
- OTHER MUSCULOSKELETAL
- MIGRAINE
- ASTHMA