



Public Health
England

Protecting and improving the nation's health

International comparisons of England with 22 peer countries from the Global Burden of Disease programme

Technical appendix

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This appendix presents main charts and tables alongside methodological explanations for the narrative presented in the main document. It presents detailed country summaries covering all major metrics, comparing performance over time and between countries.

1. Methods

Mortality and morbidity

The Global Burden of Disease (GBD) methodology is a comprehensive comparative assessment framework of health and health determinants designed to assist planning interventions and allocating resources that might address health conditions and risk factors.

The GBD project is in its 20th year and is a large international collaboration whose objective is “the systematic effort to quantify the comparative magnitude of health loss due to diseases, injuries and risk factors by age, sex and geographies for specific points in time.”¹

GBD metrics are based on a standardised analytical approach for estimating life expectancy, years of life lost due to premature mortality (YLLs), years lived with disability (YLDs), disability-adjusted life-years (DALYs), and risk factors. Data used for this article are based on the 2016 GBD study. Computation of individual metrics has been detailed elsewhere, including their use for the analysis of the Burden of Disease in England^{2,3,4}.

More in detail, GBD computes 2 main metrics – Years of Life Lost (YLL) which is a summary measure of mortality, and Years of Life Lived with Disability (YLD) which is a summary measure of morbidity – which it then combines to give a measure of disease burden – the Disability Adjusted Life Year or DALY. Health improvement can be conceptualised and quantified as a reduction in the per capita DALYs for a population.

YLLs are computed by multiplying the number of estimated deaths by the standard life expectancy at age of death, derived from the lowest observed mortality rates in any population in the world greater than 5 million (86.6 years at birth for GBD 2016).

Causes of death are organised in a 4-level hierarchy which covers all deaths at all ages. The 3 cause groups at level one of this hierarchy were:

- communicable, maternal, neonatal, and nutritional diseases
- non-communicable diseases

- and injuries

These are broken down into level 2 causes with further disaggregation into level 3 and 4 causes. Ischaemic stroke, for example, is classified as:

- non-communicable diseases (level 1)
 - cardiovascular diseases (level 2)
 - cerebrovascular disease (level 3)
 - ischaemic stroke (level 4)

YLDs are estimated by multiplying the prevalence of each cause and its consequences by a disability weight, corrected for comorbidity.

DALYs are the sum of YLDs and YLLs.

GBD calculates these metrics for over 300 diseases, over 80 disease-risk pairs, more than 20 age groups, 195 countries and subnational areas for some countries (including England), and in some cases data is available as a continuous time series from 1990 to the latest time period which is 2017.

The GBD makes considerable efforts to ensure country and subnational consistency and comparability. In the process of generating DALYs the GBD estimates disease incidence and prevalence, and calculates a summary measure of risk factor exposure known as the Summary Exposure Value (SEV).

Since 2015, times series of GBD metrics reaching back to 1990 have been produced for England and England regions⁵. GBD 2016 will provide in addition the usual metrics for each local authority in England.

The results have allowed understanding prevailing patterns and trends in life expectancy and disease burden, highlighting issues such as the increasing contribution of non-fatal conditions to the burden of disease, or the apparent slowing down of improvements in mortality which were the focus of previous editions of the study.

Data sources: GBD uses a variety of data sources, such as vital registration data, surveys, disease registries, hospital records. A full list is available online.⁶

International trend comparison

The mortality and morbidity data from the GBD 2016 study were each analysed as age standardised rates in separate general linear models (ANCOVA), for each of 20 level 3 causes: Alzheimer disease and other dementias, Anxiety disorders, Asthma, Breast Cancer, Chronic obstructive pulmonary disease, Colon and rectum cancer, Depressive disorders, Falls, Ischemic heart disease, Low back and neck pain, Lower respiratory infections, Migraine, Neonatal preterm birth, Oral disorders, Other musculoskeletal

disorders, Self-harm, Sense organ diseases, Skin and subcutaneous diseases, Stroke, Tracheal, bronchus, and lung cancer. These causes were selected as they were each ranked as a top 10 cause of mortality or morbidity in England. The data from England were analysed alongside the 22 comparator countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Spain, Sweden, United States and Wales. These “comparator countries” have been consistently used since the first GBD England paper⁷.

For all causes, the aggregated data for both sexes were used in the model, except in the case of Breast cancer where Male and Female Breast cancer were analysed as separate causes. The data were filtered to include only those observations from between 2007 and 2016. The ANCOVA examined whether there was a significant difference in the mean of each measure (YLL or YLD) and the mean rate of change in the level of each measure over time. Post-hoc pairwise contrasts of the means and slopes between countries were performed by Tukey tests. These post-hoc tests were assessed at the significance level of 0.05 and used to determine if the mean and slope for England differed significantly from each of the comparator countries. All analysis was performed in R and the package lsmeans was used to perform the post-hoc contrasts.

Identifying those conditions for which England either outperforms or underperforms its peer group. Performance is assessed in 3 ways:

- cross-sectional – in 2016, what are the main causes of mortality and morbidity in England and how does England rank against its peer group?
- improvement – are major causes of mortality and morbidity in England improving?
- rate of improvement – compared to its peer group, are rates of change in mortality and morbidity in England comparable, better or worse?

This report evaluates comparative rates of change by statistical comparison between England and peer countries individually for each of the major causes of mortality and morbidity and identify for each country-disease comparison where there are statistically significant differences in rates of change in England for that condition with its comparator for the same condition. Further detail is given in the appendix.

Applying this approach allows to build up a matrix for each major cause of mortality and morbidity showing how England ranks, whether there is improvement over time, and whether the rate of improvement exceeds comparators. This helps to prioritise further analysis – for example if England ranks highest (i.e. worst) for ischaemic heart disease and was improving at a slower rate than other countries this would appear to provide a larger opportunity for improvement, than a condition where England ranks low internationally and have had more rapid improvement.

Healthcare Access and Quality index (HAQ)

The Healthcare Access and Quality Index (HAQ) is a measure of amenable mortality based on GBD mortality rates. Amenable mortality refers deaths which are thought to be avoidable in a defined set of conditions by optimal access to and quality of medical care. It has been used as a comparative measure of healthcare and health system performance for several years.

The definition of amenable mortality has been modified over time, but the standard list was developed by Nolte and McKee some years ago⁸. The GBD version enhances amenable mortality in several ways adjusting for risk and age. The conditions contributing to the HAQ Index are shown below.

The HAQ summarises amenable mortality (premature deaths theoretically avoidable by access to and receipt of high quality medical care) into an index which takes values from 0-100 where 100 is best achievable performance.

In the past for conditions included in amenable mortality calculations, the attributable fraction has assumed to be 1 - in other words all deaths in that cause could be avoided by best medical care. This clearly isn't the case so ONS for example, have split avoidable deaths into amenable and preventable and some conditions e.g. diabetes might appear in both categories (deaths from diabetes might be avoided through reducing the incidence or severity of disease by tackling obesity, as well as improving diabetic control in established diabetics.) The GBD process uses attributable fractions for all known risks to adjust the mortality rates to try and "isolate" the proportion of deaths amenable to medical care.⁹

The index is a composite measure of mortality across all 32 contributory causes of death. It uses principal components analysis (PCA) to identify the components accounting 80% of the variance in the data, averages across these components and then scales the result from 0 - 100, where 100 is the best value and 0 the worst.

Amenable causes of death

Cause	Age
Communicable, maternal, neonatal, and nutritional diseases	NA
Tuberculosis	0-74
Diarrhoea, lower respiratory, and other common infectious diseases	NA
Diarrhoeal diseases	0-14
Lower respiratory infections	0-74
Upper respiratory infections	0-74
Diphtheria	0-74
Whooping cough	0-14

Tetanus	0-74
Measles	1-14
Maternal disorders	0-74
Neonatal disorders	0-74
Neoplasms	
Colon and rectum cancer	0-74
Non-melanoma skin cancer (squamous-cell	0-74
Breast cancer	0-74
Cervical cancer	0-74
Uterine cancer	0-44
Testicular cancer	0-74
Hodgkin's lymphoma	0-74
Leukaemia	0-74
Cardiovascular diseases	
Rheumatic heart disease	0-74
Ischaemic heart disease	0-74
Cerebrovascular disease	0-74
Hypertensive heart disease	0-74
Chronic respiratory diseases	1-14
Digestive diseases	
Peptic ulcer disease	0-74
Appendicitis	0-74
Hernia	0-74
Gallbladder and biliary diseases	0-74
Neurological disease	
Epilepsy	0-74
Endocrine/kidney disease	
Diabetes	0-49
Chronic kidney disease	0-74
Other non-communicable diseases	
Congenital heart anomalies	0-74
Injuries	
Adverse effects of medical treatment	0-74

The HAQ can thus be deconstructed into 32 underlying causes of death for which there are time series data for each peer country. A similar analytical approach to that outlined above can be applied to identify potential areas for improvement in England. The Lancet paper describing the HAQ performed a ‘frontier analysis’ – essentially a comparison between country socio-economic status and HAQ value. This enables an estimation of potential country-specific improvement in HAQ for its level of socio-economic status¹⁰.

The “gap” between the HAQ Index and the frontier value for a given country represents how much untapped potential exists for improving personal healthcare access and quality, as compared to a country’s resources and level of development.

Interpreting the index is not straightforward but if there are no deaths in a locality from any of the contributory conditions, then it will get an index of 100. No country currently has an index of 100. The inference is that the higher the value of the index the more likely it is that people can access high quality effective care.

Forecasting

GBD-based forecasting is based on work by the Center for Health Trends and Forecasts¹¹. It uses data from the GBD 2016 study to develop a 3-component model of cause-specific mortality: a component due to changes in risk factors and select interventions; the underlying mortality rate for each cause that is a function of income per capita, educational attainment, and total fertility rate under 25 years and time; and an autoregressive integrated moving average model for unexplained changes correlated with time¹². The model was used to generate a reference scenario or forecast through 2040 for each measure by location for 195 countries and territories. The model generated all-cause age-sex specific mortality, life expectancy, and years of life lost (YLLs) for 250 causes. It includes ‘better health’ and ‘worse health’ scenarios based on the 85th and 15th percentiles, respectively, of annualised rates of change across location-years for all the GBD risk factors, income per person, educational attainment, select intervention coverage, and total fertility rate under 25 years in the past. Extensive technical documentation available online presents the details.¹³

Limitations

There are a number of methodological issues to consider when interpreting England results produced by GBD:

There are no direct or ‘raw’ estimates within any GBD results, so GBD data cannot be compared directly to local data from known sources, such as ONS vital statistics. GBD cannot be used to directly inform surveillance or ‘case finding’.

Results reflect an epidemiologically consistent model of disease patterns. For example, where ‘real’ data may report a spike of a disease at one time, the GBD attempts to ‘smooth’ this variation.

Mortality data is robust as it is based on reported ONS data. However, it assumes a level of ‘miscoding’ in the underlying cause of death in the reported mortality data which is adjusted for in the model. This means cause-specific death rates reported in GBD may not match rates for similar conditions in national statistics.

Morbidity estimates are less robust in most cases, with the exception of cancer data. This is highlighted more within local areas, where data sources on morbidity are limited.

Prevalence and incidence patterns should be treated with caution and compared to local data if available. Over time, these should improve.

The GBD risk attribution uses single risk factor–outcome pairs in its calculation. It does not allow investigating the burden of disease linked to multi-morbidity, a methodological issue which will be addressed as the model and general understanding of it improves.

Health inequalities influence national outcomes and can explain local differences. England GBD data for 2013 allowed the break-down of results by levels of deprivation. This is not available for other countries, masking the contribution of poverty in international comparisons. This has been partly addressed by the introduction of the HAQ index.

All Global Burden of Disease (GBD) updates are iterative, so all data elements change at every release, for all years. This is because the Institute for Health Metrics and Evaluation (IHME) constantly evolve the methods used.

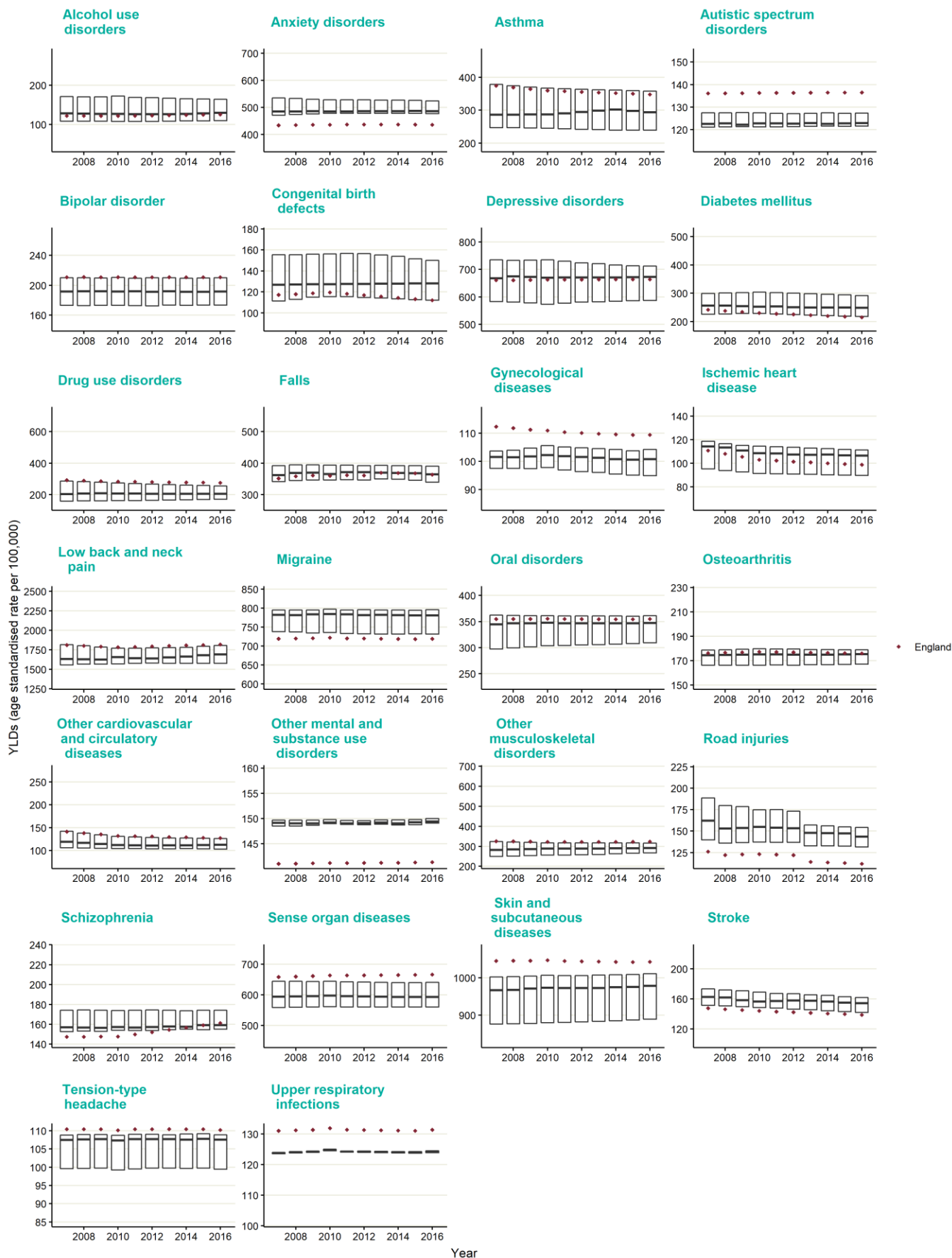
2. Trends in mortality and morbidity

The summary chart, figure nr 1, presents a larger selection of mortality causes than shown in the main text in the same section. Figure nr. 2 presents trends in morbidity.

Figure 1, Trend in YLLs of major diseases for England and peer group



Figure 2, Trend in YLDs of major diseases for England and peer group



3. Trends in disease frequency: incidence and prevalence

Figures 3 and 4 show trends over time in incidence and resp. prevalence for major causes.

Figure 3, trend in incidence of major diseases for England and peer group



NB: y-axis scales differ between charts

Figure 4, trend in prevalence of major diseases for England and peer group



NB: y-axis scales differ between charts

4. Trends in risk factors

Figure 5, Trend in summary exposure for key risk factors for England and peer group

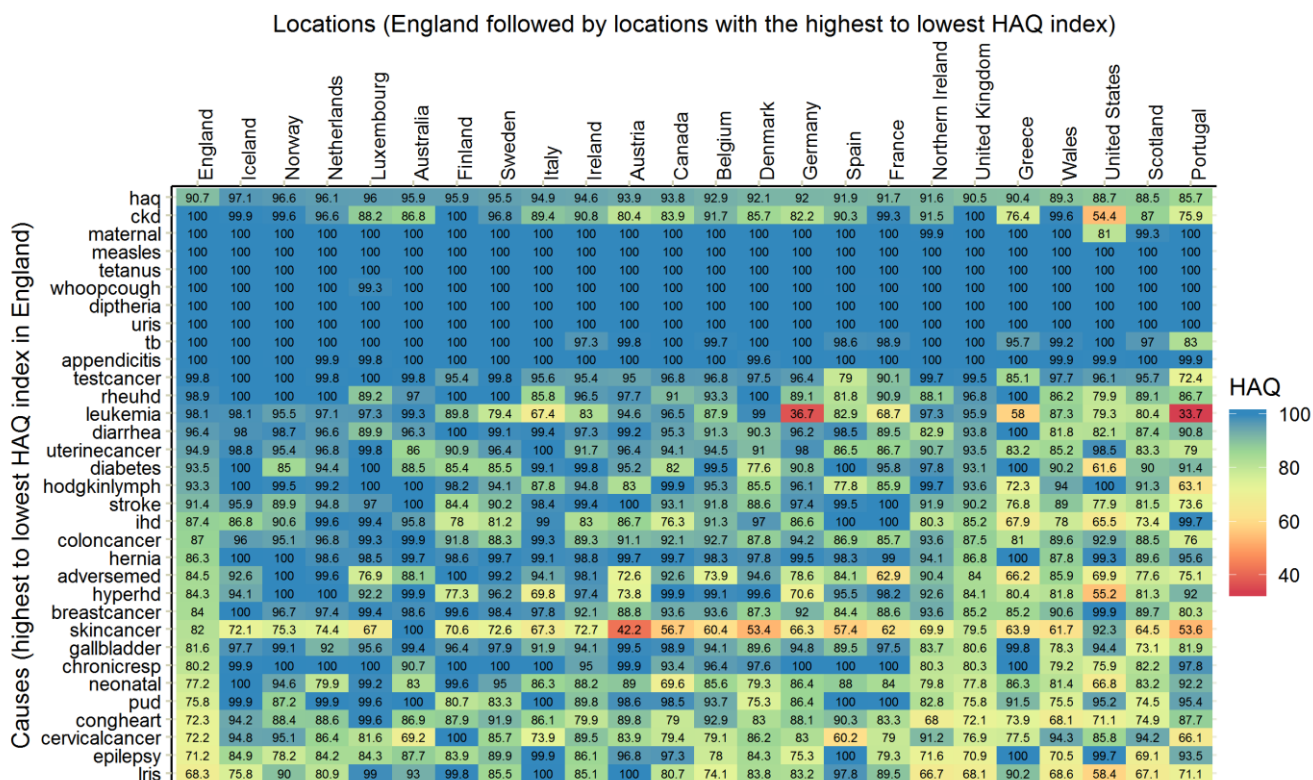


5. Healthcare Access and Quality Index (HAQ)

This section presents more detail on individual causes, comparing England with peer countries. Looking at the cause-specific components of HAQ (Figure 6) cross-sectionally confirms that England underperforms across a range of diseases compared to its peer group - specifically:

- COPD
- Breast cancer
- Peptic ulcer disease
- Colorectal cancer
- Ischaemic heart disease
- Epilepsy
- Cancer of the cervix

Figure 6 Heatmap of cause-specific components of HAQ



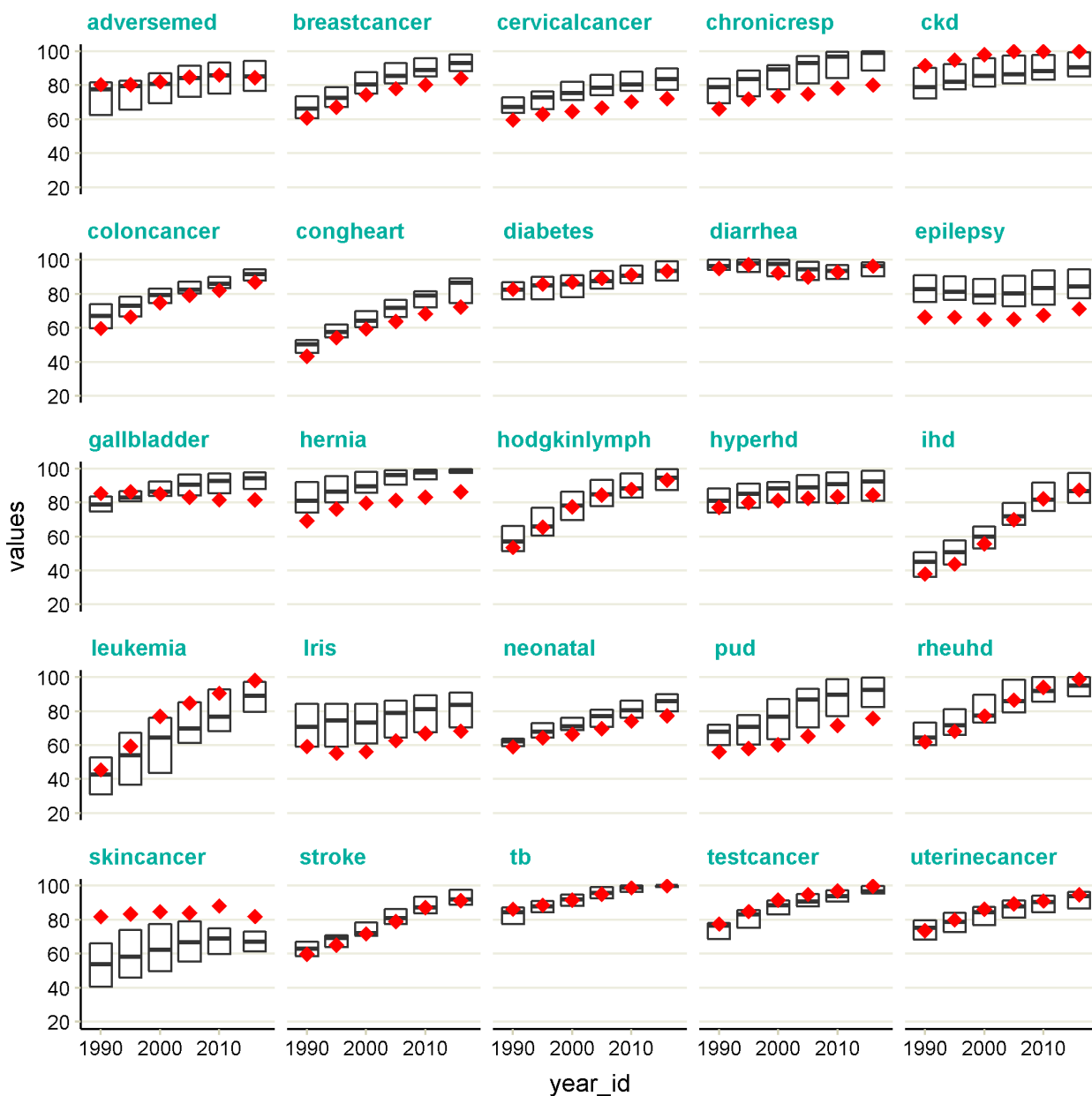
International comparisons of England with 22 peer countries from the Global Burden of Disease programme

Data is available to track cause specific HAQ indices over time (

Figure 7). For many of the components of the overall HAQ index, there is little variation between countries or the index is near 100 implying few deaths to be avoided. From an England perspective, there have been major improvements in rheumatic heart disease and leukaemia.

Conditions where England under-performs relative to comparators include breast cancer, cancer of the cervix, COPD, colon cancer, epilepsy, ischaemic heart disease, neonatal deaths, peptic ulcer disease and stroke.

Figure 7, Trend in cause-specific components of HAQ for England versus peer group



6. International trend comparison

The Methods section introduced the analytical approach for this section.

Figure 8 is concerned with the pattern of the slope, allowing understanding whether England's performance, slowing down in most cases, is significantly any different from that of comparable countries.

Figure 9 compares the average rate over the last 10 years or so between countries, to allow placing the England value into context.

Figure 8, Trends in age-standardised YLL rates, England vs comparator countries

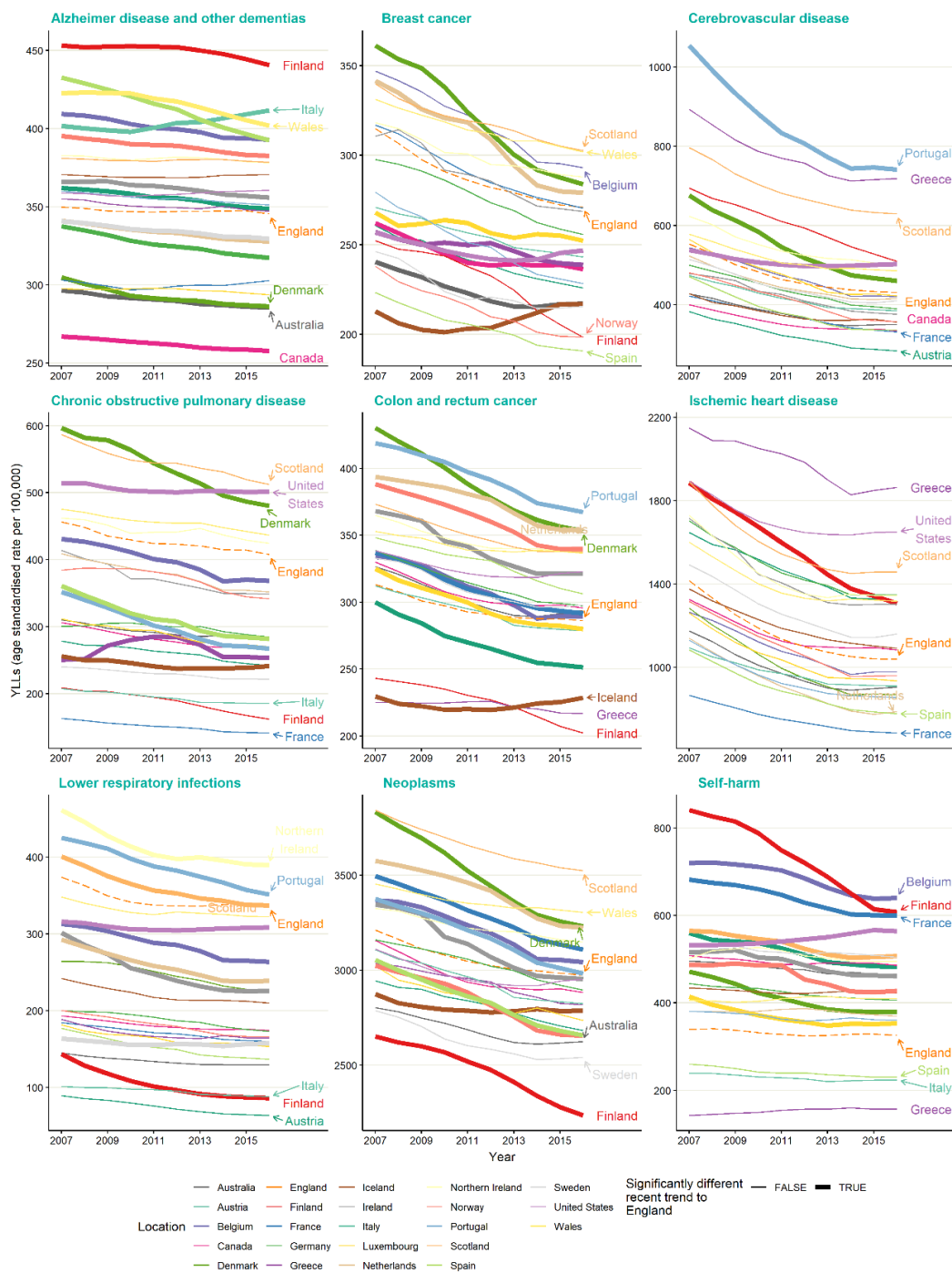
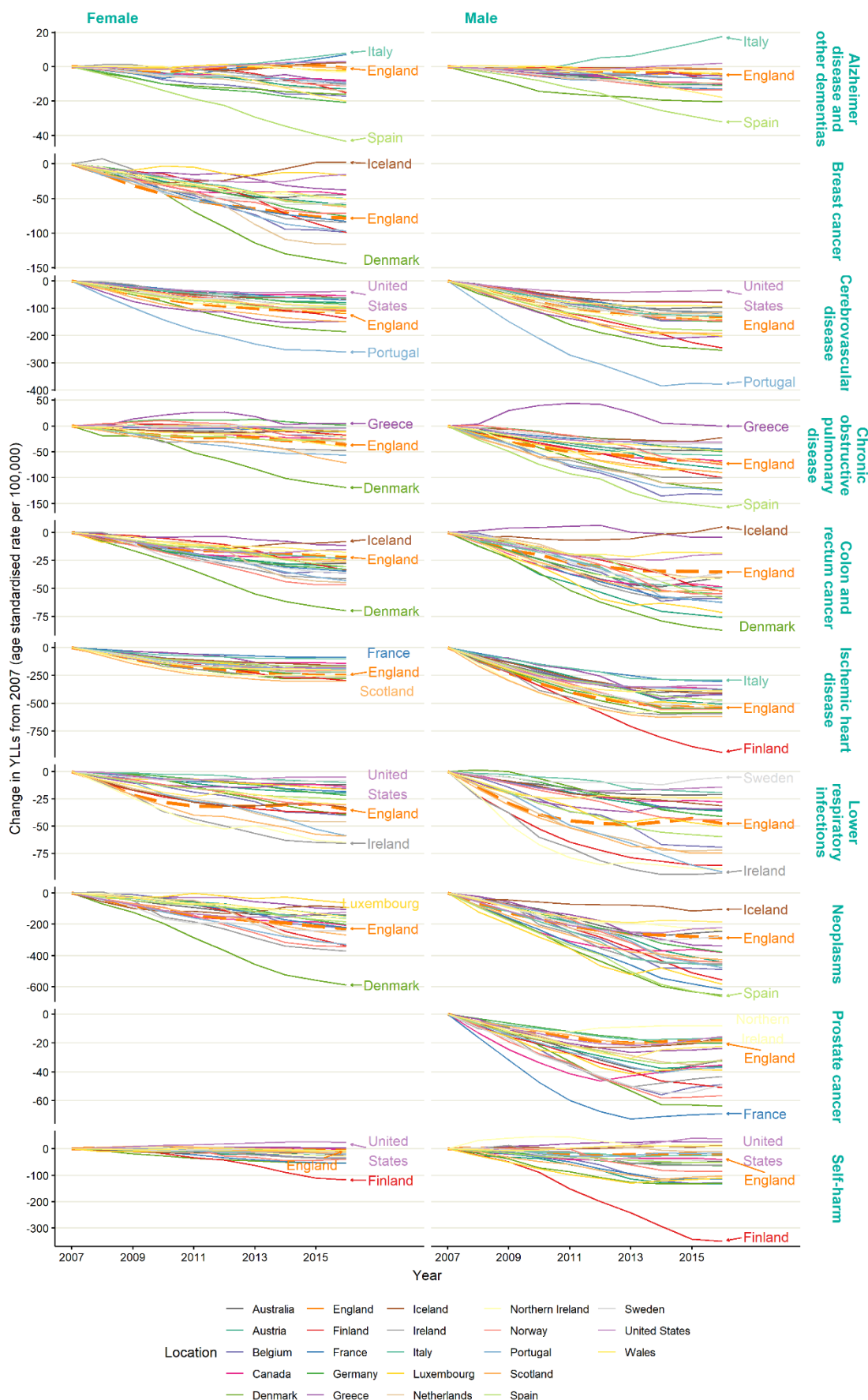


Figure 9, Age-standardised YLL rate changes, by gender, England vs comparator countries



7. Detailed inter-country comparison

This section presents complete data and charts for each individual main cause for mortality and morbidity, comparing England with peer countries.

Cause	Morbidity	Mortality
<p>Alzheimer disease and other dementias</p>	<p>Within England, Alzheimer disease and other dementias ranked as #28 cause for YLD in 2007 and #29 in 2016.</p> <p>Over these years, YLD rates decreased (from 97.14 to 94.58, or -2.64%), whereas the 3 best performing comparator country's rates decreased by an average of -6.45%.</p> <p>In 2016, the YLD rate was in the lower half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Austria, Belgium, Finland, Greece, Iceland, Ireland, Italy, Northern Ireland, Norway, Portugal, Scotland, Spain, Sweden, United States, Wales and significantly worse than in Australia, Canada, Denmark, France, Germany, Luxembourg, Netherlands.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Finland, France, Italy, United States and significantly worse than in Germany, Spain, Wales.</p> <p>Overall, the 'best' comparator country is Spain where rates have decreased by -7.79%, and the 'worst' comparator country is France where rates have increased by 3.81%.</p>	<p>Within England, Alzheimer disease and other dementias ranked as #6 cause for YLL in 2007 and #5 in 2016.</p> <p>Over these years, YLL rates decreased (from 349.73 to 345.47, or -1.22%), whereas the 3 best performing comparator country's rates decreased by an average of -7.12%.</p> <p>In 2016, the YLL rate was in the upper half of comparator country distributions.</p> <p>Mean YLL rate per 100,000 over the past 10 years was significantly better in England than in Austria, Belgium, Finland, Greece, Iceland, Ireland, Italy, Northern Ireland, Norway, Portugal, Scotland, Spain, United States, Wales and significantly worse than in Australia, Canada, Denmark, France, Germany, Luxembourg, Netherlands, Sweden.</p> <p>Mean rate of change in YLL rates over the past 10 years was significantly better in England than in Italy and significantly worse than in Australia, Austria, Belgium, Canada, Denmark, Finland, Germany, Ireland, Netherlands, Norway, Spain, Sweden, Wales.</p> <p>Overall, the 'best' comparator country is Spain where rates have decreased by -9.27%, and the 'worst' comparator country is Italy where rates have increased by 2.46%.</p>
<p>Anxiety disorders</p>	<p>Within England, Anxiety disorders ranked as #6 cause for YLD in 2007 and #6 in 2016.</p>	<p>NA</p>

Cause	Morbidity	Mortality
	<p>Over these years, YLD rates increased (from 434.09 to 435.43, or 0.31%), whereas the 3 best performing comparator country's rates decreased by an average of -7.57%.</p> <p>In 2016, the YLD rate was in the upper half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Australia, Austria, Belgium, Canada, Denmark, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Spain, Sweden, United States, Wales and significantly worse than in Finland.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Spain and significantly worse than in Netherlands, Northern Ireland, United States.</p> <p>Overall, the 'best' comparator country is Netherlands where rates have decreased by -10.65%, and the 'worst' comparator country is Spain where rates have increased by 4.11%.</p>	
Asthma	<p>Within England, Asthma ranked as #7 cause for YLD in 2007 and #9 in 2016.</p> <p>Over these years, YLD rates decreased (from 374.63 to 348.28, or -7.03%), whereas the 3 best performing comparator country's rates decreased by an average of -8.07%.</p> <p>In 2016, the YLD rate was in the lower half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Australia, Ireland, Luxembourg, Northern Ireland, Scotland, Wales and significantly worse than in Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, United States.</p>	<p>Within England, Asthma ranked as #54 cause for YLL in 2007 and #60 in 2016.</p> <p>Over these years, YLL rates decreased (from 34.78 to 26.62, or -23.47%), whereas the 3 best performing comparator country's rates decreased by an average of -40.14%.</p> <p>In 2016, the YLL rate was in the lower half of comparator country distributions.</p> <p>Mean YLL rate per 100,000 over the past 10 years was significantly better in England than in Australia, Northern Ireland, Scotland, United States, Wales and significantly worse than in Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden.</p> <p>Mean rate of change in YLL rates over the past 10 years was significantly better in England than in Canada, Greece,</p>

Cause	Morbidity	Mortality
	<p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Austria, Belgium, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Spain, Sweden, United States, Wales.</p> <p>Overall, the 'best' comparator country is Canada where rates have decreased by -9.28%, and the 'worst' comparator country is Sweden where rates have increased by 8.89%.</p>	<p>Iceland, Italy, Netherlands, Portugal, United States.</p> <p>Overall, the 'best' comparator country is Denmark where rates have decreased by -44.1%, and the 'worst' comparator country is United States where rates have decreased by -5.27%.</p>
<p>Breast Cancer (Female)</p>	<p>Within England, Breast cancer ranked as #53 cause for YLD in 2007 and #54 in 2016.</p> <p>Over these years, YLD rates decreased (from 105.72 to 99.57, or -5.81%), whereas the 3 best performing comparator country's rates decreased by an average of -6.85%.</p> <p>In 2016, the YLD rate was in the lower half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Australia, Belgium, Canada, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Luxembourg, Netherlands, Northern Ireland, Scotland, Sweden, United States, Wales and significantly worse than in Austria, Greece, Norway, Portugal, Spain.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Iceland, Luxembourg, Northern Ireland, Wales and significantly worse than in Denmark, Netherlands.</p> <p>Overall, the 'best' comparator country is Denmark where rates have decreased by -8.26%, and the 'worst' comparator country is Iceland where rates have increased by 7.63%.</p>	<p>Within England, Breast cancer ranked as #9 cause for YLL in 2007 and #9 in 2016.</p> <p>Over these years, YLL rates decreased (from 456.3 to 407.87, or -10.61%), whereas the 3 best performing comparator country's rates decreased by an average of -20.11%.</p> <p>In 2016, the YLL rate was in the lower half of comparator country distributions.</p> <p>Mean YLL rate per 100,000 over the past 10 years was significantly better in England than in Belgium, Denmark, Ireland, Netherlands, Northern Ireland, Scotland, Wales and significantly worse than in Australia, Austria, Canada, Finland, Germany, Greece, Iceland, Italy, Luxembourg, Norway, Portugal, Spain, Sweden, United States.</p> <p>Mean rate of change in YLL rates over the past 10 years was significantly better in England than in Canada, Greece, Iceland, Luxembourg, United States and significantly worse than in Denmark, Netherlands.</p> <p>Overall, the 'best' comparator country is Denmark where rates have decreased by -20.85%, and the 'worst' comparator country is Iceland where rates have increased by 0.54%.</p>
<p>Breast Cancer (Male)</p>	<p>Within England, Breast cancer ranked as #53 cause for YLD in 2007 and #54 in 2016.</p>	<p>Within England, Breast cancer ranked as #9 cause for YLL in 2007 and #9 in 2016.</p>

Cause	Morbidity	Mortality
	<p>Over these years, YLD rates increased (from 14.11 to 14.12, or 0.1%), whereas the 3 best performing comparator country's rates decreased by and average of -11.4%.</p> <p>In 2016, the YLD rate was in the lower half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Belgium, Greece, Luxembourg, United States and significantly worse than in Australia, Austria, Canada, Denmark, Finland, Germany, Iceland, Ireland, Italy, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Spain, Sweden, Wales.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Australia, Austria, Belgium, Canada, Finland, Ireland, Netherlands, Northern Ireland, Norway, Sweden, Wales and significantly worse than in Luxembourg.</p> <p>Overall, the 'best' comparator country is Iceland where rates have decreased by -11.83%, and the 'worst' comparator country is Australia where rates have increased by 3.5%.</p>	<p>Over these years, YLL rates decreased (from 313.1 to 286.28, or -8.57%), whereas the 3 best performing comparator country's rates decreased by and average of -20.78%.</p> <p>In 2016, the YLL rate was in the lower half of comparator country distributions.</p> <p>Mean YLL rate per 100,000 over the past 10 years was significantly better in England than in France, Greece and significantly worse than in Australia, Austria, Canada, Denmark, Finland, Germany, Iceland, Ireland, Italy, Netherlands, Northern Ireland, Norway, Scotland, Spain, Sweden, United States, Wales.</p> <p>Mean rate of change in YLL rates over the past 10 years was significantly better in England than in Australia, Canada, Finland, Greece, Ireland, Norway, Sweden, United States, Wales and significantly worse than in Luxembourg.</p> <p>Overall, the 'best' comparator country is Luxembourg where rates have decreased by -22.15%, and the 'worst' comparator country is Wales where rates have decreased by -1.68%.</p>
<p>Chronic obstructive pulmonary disease</p>	<p>Within England, Chronic obstructive pulmonary disease ranked as #27 cause for YLD in 2007 and #26 in 2016.</p> <p>Over these years, YLD rates increased (from 660.58 to 664.09, or 0.53%), whereas the 3 best performing comparator country's rates decreased by and average of -14.34%.</p> <p>In 2016, the YLD rate was in the upper half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Belgium, Denmark, Germany, Greece, Iceland, Ireland, Luxembourg, Netherlands, Norway, Scotland, Sweden, United States and significantly worse than in Australia, Austria, Canada, Finland,</p>	<p>Within England, Chronic obstructive pulmonary disease ranked as #4 cause for YLL in 2007 and #4 in 2016.</p> <p>Over these years, YLL rates decreased (from 90.31 to 85.61, or -5.2%), whereas the 3 best performing comparator country's rates decreased by and average of -22.87%.</p> <p>In 2016, the YLL rate was in the upper half of comparator country distributions.</p> <p>Mean YLL rate per 100,000 over the past 10 years was significantly better in England than in Denmark, Northern Ireland, Scotland, United States, Wales and significantly worse than in Australia, Austria, Belgium, Canada, Finland, France, Germany, Greece, Iceland, Ireland, Italy,</p>

Cause	Morbidity	Mortality
	<p>France, Italy, Northern Ireland, Portugal, Spain, Wales.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Canada, France, Sweden and significantly worse than in Iceland, Ireland, Netherlands, Norway.</p> <p>Overall, the 'best' comparator country is Netherlands where rates have decreased by -16.36%, and the 'worst' comparator country is Sweden where rates have decreased by -0.65%.</p>	<p>Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden.</p> <p>Mean rate of change in YLL rates over the past 10 years was significantly better in England than in Greece, Iceland, United States and significantly worse than in Belgium, Denmark, Portugal, Spain.</p> <p>Overall, the 'best' comparator country is Portugal where rates have decreased by -24.02%, and the 'worst' comparator country is Greece where rates have increased by 1.16%.</p>
<p>Colon and rectum cancer</p>	<p>Within England, Colon and rectum cancer ranked as #58 cause for YLD in 2007 and #58 in 2016.</p> <p>Over these years, YLD rates increased (from 351.69 to 363.93, or 3.48%), whereas the 3 best performing comparator country's rates decreased by an average of -5.26%.</p> <p>In 2016, the YLD rate was in the upper half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Australia, Belgium, Canada, Denmark, Germany, Ireland, Italy, Luxembourg, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Spain, Sweden, United States, Wales and significantly worse than in Austria, Finland, Greece, Iceland.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Wales and significantly worse than in Austria, Denmark, Italy, Luxembourg, Scotland, Spain.</p> <p>Overall, the 'best' comparator country is Luxembourg where rates have decreased by -6.37%, and the 'worst' comparator country is Wales where rates have increased by 7.54%.</p>	<p>Within England, Colon and rectum cancer ranked as #10 cause for YLL in 2007 and #8 in 2016.</p> <p>Over these years, YLL rates decreased (from 1416.34 to 1040.15, or -26.56%), whereas the 3 best performing comparator country's rates decreased by an average of -17.01%.</p> <p>In 2016, the YLL rate was in the upper half of comparator country distributions.</p> <p>Mean YLL rate per 100,000 over the past 10 years was significantly better in England than in Australia, Belgium, Canada, Denmark, France, Germany, Ireland, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Spain, Sweden, United States, Wales and significantly worse than in Austria, Finland, Greece, Iceland.</p> <p>Mean rate of change in YLL rates over the past 10 years was significantly better in England than in Iceland and significantly worse than in Austria, Belgium, Denmark, France, Ireland, Luxembourg, Netherlands, Norway, Portugal.</p> <p>Overall, the 'best' comparator country is Denmark where rates have decreased by -17.88%, and the 'worst' comparator country is Iceland where rates have decreased by -0.47%.</p>

Cause	Morbidity	Mortality
<p>Depressive disorders</p>	<p>Within England, Depressive disorders ranked as #4 cause for YLD in 2007 and #5 in 2016.</p> <p>Over these years, YLD rates decreased (from 110.83 to 98.81, or -10.84%), whereas the 3 best performing comparator country's rates decreased by and average of -5.57%.</p> <p>In 2016, the YLD rate was in the upper half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Australia, Belgium, Finland, France, Greece, Ireland, Northern Ireland, Portugal, Scotland, Sweden, United States, Wales and significantly worse than in Austria, Canada, Denmark, Germany, Iceland, Italy, Luxembourg, Netherlands, Norway, Spain.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Belgium, Norway, Spain and significantly worse than in Australia, Austria, Finland, Greece, Ireland, Luxembourg, Northern Ireland, Portugal, Sweden, United States.</p> <p>Overall, the 'best' comparator country is Northern Ireland where rates have decreased by -6.56%, and the 'worst' comparator country is Norway where rates have increased by 4.56%.</p>	<p>NA</p>
<p>Falls</p>	<p>Within England, Falls ranked as #9 cause for YLD in 2007 and #7 in 2016.</p> <p>Over these years, YLD rates increased (from 1810.95 to 1819.9, or 0.49%), whereas the 3 best performing comparator country's rates decreased by and average of -13.99%.</p> <p>In 2016, the YLD rate was in the upper half of comparator country distributions.</p>	<p>Within England, Falls ranked as #28 cause for YLL in 2007 and #27 in 2016.</p> <p>Over these years, YLL rates decreased (from 373.75 to 335.68, or -10.18%), whereas the 3 best performing comparator country's rates decreased by and average of -22.96%.</p> <p>In 2016, the YLL rate was in the upper half of comparator country distributions.</p>

Cause	Morbidity	Mortality
	<p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Luxembourg, Norway, Scotland, Spain, Sweden and significantly worse than in Australia, Canada, Greece, Iceland, Netherlands, Portugal, United States, Wales.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Netherlands, United States and significantly worse than in Belgium, Finland, Luxembourg, Portugal, Spain.</p> <p>Overall, the 'best' comparator country is Finland where rates have decreased by -15.36%, and the 'worst' comparator country is United States where rates have increased by 20.76%.</p>	<p>Mean YLL rate per 100,000 over the past 10 years was significantly better in England than in Austria, Belgium, Canada, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Sweden, United States, Wales and significantly worse than in Australia, Greece, Italy, Spain.</p> <p>Mean rate of change in YLL rates over the past 10 years was significantly better in England than in Iceland, United States and significantly worse than in Austria, Belgium, Denmark, Finland, France, Greece, Ireland, Italy, Luxembourg, Norway, Portugal, Scotland, Spain.</p> <p>Overall, the 'best' comparator country is Finland where rates have decreased by -26.6%, and the 'worst' comparator country is Iceland where rates have increased by 7.32%.</p>
<p>Ischemic heart disease</p>	<p>Within England, Ischemic heart disease ranked as #25 cause for YLD in 2007 and #27 in 2016.</p> <p>Over these years, YLD rates increased (from 2.86 to 2.88, or 0.65%), whereas the 3 best performing comparator country's rates decreased by and average of -9.35%.</p> <p>In 2016, the YLD rate was in the lower half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Austria, Belgium, Denmark, Finland, Germany, Greece, Iceland, Ireland, Luxembourg, Northern Ireland, Norway, Scotland, Sweden, Wales and significantly worse than in Australia, Canada, France, Italy, Portugal, Spain, United States.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Australia, Austria, Belgium, Canada, France, Germany, Greece, Iceland, Italy, Netherlands, Portugal, Scotland, Spain, Sweden, United</p>	<p>Within England, Ischemic heart disease ranked as #1 cause for YLL in 2007 and #1 in 2016.</p> <p>Over these years, YLL rates decreased (from 327.96 to 261.85, or -20.16%), whereas the 3 best performing comparator country's rates decreased by and average of -31.24%.</p> <p>In 2016, the YLL rate was in the lower half of comparator country distributions.</p> <p>Mean YLL rate per 100,000 over the past 10 years was significantly better in England than in Austria, Finland, Germany, Greece, Ireland, Northern Ireland, Scotland, Sweden, United States, Wales and significantly worse than in Australia, Belgium, Denmark, France, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain.</p> <p>Mean rate of change in YLL rates over the past 10 years was significantly better in England than in and significantly worse than in Finland.</p>

Cause	Morbidity	Mortality
	<p>States.</p> <p>Overall, the 'best' comparator country is England where rates have decreased by -10.84%, and the 'worst' comparator country is France where rates have increased by 4.16%.</p>	<p>Overall, the 'best' comparator country is Denmark where rates have decreased by -32.32%, and the 'worst' comparator country is United States where rates have decreased by -12.84%.</p>
<p>Low back and neck pain</p>	<p>Within England, Low back and neck pain ranked as #1 cause for YLD in 2007 and #1 in 2016.</p> <p>Over these years, YLD rates decreased (from 719.65 to 719.14, or -0.07%), whereas the 3 best performing comparator country's rates decreased by and average of-2.36%.</p> <p>In 2016, the YLD rate was in the lower half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Denmark, Germany, Iceland, Netherlands, Sweden and significantly worse than in Australia, Austria, Belgium, Canada, Finland, France, Greece, Ireland, Italy, Luxembourg, Northern Ireland, Norway, Portugal, Scotland, Spain, United States, Wales.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Denmark, Finland, Wales and significantly worse than in Belgium.</p> <p>Overall, the 'best' comparator country is Belgium where rates have decreased by -3.82%, and the 'worst' comparator country is Denmark where rates have increased by 5.4%.</p>	<p>NA</p>
<p>Lower respiratory infections</p>	<p>Within England, Lower respiratory infections ranked as #98 cause for YLD in 2007 and #97 in 2016.</p> <p>Over these years, YLD rates increased (from 58.48 to 87.56, or 49.73%), whereas the 3 best performing comparator country's rates decreased by and average of-9.51%.</p>	<p>Within England, Lower respiratory infections ranked as #5 cause for YLL in 2007 and #6 in 2016.</p> <p>Over these years, YLL rates decreased (from 32.34 to 28.98, or -10.4%), whereas the 3 best performing comparator country's rates decreased by and average of-31.26%.</p>

Cause	Morbidity	Mortality
	<p>In 2016, the YLD rate was in the upper half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Australia, Belgium, Canada, Denmark, France, Germany, Iceland, Northern Ireland, Portugal, Scotland, United States, Wales and significantly worse than in Austria, Finland, Greece, Italy, Luxembourg, Netherlands, Norway, Spain, Sweden.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Australia, France, Scotland, United States and significantly worse than in Austria, Finland, Iceland, Ireland, Northern Ireland, Portugal, Sweden, Wales.</p> <p>Overall, the 'best' comparator country is Finland where rates have decreased by -10.14%, and the 'worst' comparator country is Australia where rates have increased by 17.95%.</p>	<p>In 2016, the YLL rate was in the upper half of comparator country distributions.</p> <p>Mean YLL rate per 100,000 over the past 10 years was significantly better in England than in Northern Ireland, Portugal, Scotland and significantly worse than in Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Spain, Sweden, United States, Wales.</p> <p>Mean rate of change in YLL rates over the past 10 years was significantly better in England than in Sweden, United States and significantly worse than in Belgium, Finland, Ireland, Netherlands, Northern Ireland, Portugal, Scotland.</p> <p>Overall, the 'best' comparator country is Finland where rates have decreased by -39.78%, and the 'worst' comparator country is United States where rates have decreased by -2.39%.</p>
<p>Migraine</p>	<p>Within England, Migraine ranked as #3 cause for YLD in 2007 and #3 in 2016.</p> <p>Over these years, YLD rates increased (from 354.76 to 354.91, or 0.04%), whereas the 3 best performing comparator country's rates decreased by an average of -2.57%.</p> <p>In 2016, the YLD rate was in the upper half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Northern Ireland, Portugal, Scotland, Spain, Wales and significantly worse than in Canada, Norway, Sweden, United States.</p> <p>Mean rate of change in YLD rates over the past 10 years was</p>	<p>NA</p>

Cause	Morbidity	Mortality
	<p>significantly better in England than in Iceland and significantly worse than in Canada.</p> <p>Overall, the 'best' comparator country is Canada where rates have decreased by -6.33%, and the 'worst' comparator country is Iceland where rates have increased by 0.86%.</p>	
<p>Neonatal preterm birth</p>	<p>Within England, Neonatal preterm birth ranked as #39 cause for YLD in 2007 and #31 in 2016.</p> <p>Over these years, YLD rates decreased (from 325.74 to 323.41, or -0.72%), whereas the 3 best performing comparator country's rates decreased by and average of -7.59%.</p> <p>In 2016, the YLD rate was in the upper half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Canada, United States and significantly worse than in Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Spain, Sweden, Wales.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in and significantly worse than in Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Spain, Sweden, United States, Wales.</p> <p>Overall, the 'best' comparator country is Italy where rates have decreased by -8.91%, and the 'worst' comparator country is England where rates have increased by 49.73%.</p>	<p>Within England, Neonatal preterm birth ranked as #8 cause for YLL in 2007 and #10 in 2016.</p> <p>Over these years, YLL rates decreased (from 339.53 to 325.78, or -4.05%), whereas the 3 best performing comparator country's rates decreased by and average of -42.07%.</p> <p>In 2016, the YLL rate was in the upper half of comparator country distributions.</p> <p>Mean YLL rate per 100,000 over the past 10 years was significantly better in England than in United States and significantly worse than in Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Spain, Sweden, Wales.</p> <p>Mean rate of change in YLL rates over the past 10 years was significantly better in England than in Australia, Belgium, Canada, Denmark, France, Greece, Iceland, Ireland, Luxembourg, Netherlands, Norway, Scotland, Spain, Sweden.</p> <p>Overall, the 'best' comparator country is Finland where rates have decreased by -46.68%, and the 'worst' comparator country is France where rates have decreased by -4.67%.</p>
<p>Oral disorders</p>	<p>Within England, Oral disorders ranked as #8 cause for YLD in 2007 and #8 in 2016.</p>	<p>NA</p>

Cause	Morbidity	Mortality
	<p>Over these years, YLD rates decreased (from 8.86 to 8.74, or -1.37%), whereas the 3 best performing comparator country's rates decreased by and average of -0.82%.</p> <p>In 2016, the YLD rate was in the lower half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Austria, Belgium, Denmark, Iceland, Ireland, Luxembourg, Netherlands and significantly worse than in Australia, Canada, Finland, France, Germany, Greece, Italy, Northern Ireland, Norway, Portugal, Spain, Sweden, United States, Wales.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Australia, United States.</p> <p>Overall, the 'best' comparator country is Netherlands where rates have decreased by -1.33%, and the 'worst' comparator country is United States where rates have increased by 8.06%.</p>	
<p>Other musculoskeletal disorders</p>	<p>Within England, Other musculoskeletal disorders ranked as #10 cause for YLD in 2007 and #10 in 2016.</p> <p>Over these years, YLD rates increased (from 658.33 to 666.73, or 1.28%), whereas the 3 best performing comparator country's rates decreased by and average of -6.78%.</p> <p>In 2016, the YLD rate was in the lower half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Australia, Canada, United States and significantly worse than in Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Northern Ireland, Norway, Portugal, Scotland, Spain, Sweden.</p>	<p>Within England, Other musculoskeletal disorders ranked as #57 cause for YLL in 2007 and #56 in 2016.</p> <p>Over these years, YLL rates increased (from 24.42 to 24.62, or 0.82%), whereas the 3 best performing comparator country's rates decreased by and average of -16.21%.</p> <p>In 2016, the YLL rate was in the lower half of comparator country distributions.</p> <p>Mean YLL rate per 100,000 over the past 10 years was significantly better in England than in United States and significantly worse than in Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Spain, Sweden, Wales.</p>

Cause	Morbidity	Mortality
	<p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Belgium, Finland, Portugal, Spain and significantly worse than in Australia, Netherlands.</p> <p>Overall, the 'best' comparator country is Netherlands where rates have decreased by -7.59%, and the 'worst' comparator country is Spain where rates have increased by 16.96%.</p>	<p>Mean rate of change in YLL rates over the past 10 years was significantly better in England than in Germany, Greece, Iceland, Ireland, Luxembourg, Netherlands, Portugal, Spain, Sweden, Wales and significantly worse than in Denmark.</p> <p>Overall, the 'best' comparator country is Finland where rates have decreased by -20.35%, and the 'worst' comparator country is Greece where rates have increased by 8.99%.</p>
<p>Self-harm</p>	<p>Within England, Self-harm ranked as #70 cause for YLD in 2007 and #71 in 2016.</p> <p>Over these years, YLD rates decreased (from 1045.61 to 1043.24, or -0.23%), whereas the 3 best performing comparator country's rates decreased by an average of -12.72%.</p> <p>In 2016, the YLD rate was in the upper half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Luxembourg, Northern Ireland, Norway, Scotland, Sweden, United States, Wales and significantly worse than in Greece, Iceland, Italy, Netherlands, Portugal, Spain.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in and significantly worse than in Austria, Belgium, Finland, Norway, United States.</p> <p>Overall, the 'best' comparator country is Belgium where rates have decreased by -18.28%, and the 'worst' comparator country is Netherlands where rates have increased by 7.33%.</p>	<p>Within England, Self-harm ranked as #7 cause for YLL in 2007 and #7 in 2016.</p> <p>Over these years, YLL rates decreased (from 553.85 to 430.92, or -22.2%), whereas the 3 best performing comparator country's rates decreased by an average of -20.65%.</p> <p>In 2016, the YLL rate was in the upper half of comparator country distributions.</p> <p>Mean YLL rate per 100,000 over the past 10 years was significantly better in England than in Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Sweden, United States, Wales and significantly worse than in Greece, Italy, Spain.</p> <p>Mean rate of change in YLL rates over the past 10 years was significantly better in England than in United States and significantly worse than in Austria, Belgium, Denmark, Finland, France, Ireland, Luxembourg, Norway, Scotland.</p> <p>Overall, the 'best' comparator country is Finland where rates have decreased by -27.73%, and the 'worst' comparator country is Greece where rates have increased by 10%.</p>

Cause	Morbidity	Mortality
<p>Sense organ diseases</p>	<p>Within England, Sense organ diseases ranked as #5 cause for YLD in 2007 and #4 in 2016.</p> <p>Over these years, YLD rates decreased (from 147.66 to 138.94, or -5.91%), whereas the 3 best performing comparator country's rates decreased by and average of-1.33%.</p> <p>In 2016, the YLD rate was in the upper half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Germany, Italy, Spain and significantly worse than in Australia, Austria, Belgium, Canada, Denmark, Finland, France, Greece, Iceland, Ireland, Luxembourg, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Sweden, United States, Wales.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in and significantly worse than in Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Spain, Sweden, United States, Wales.</p> <p>Overall, the 'best' comparator country is Germany where rates have decreased by -1.8%, and the 'worst' comparator country is Canada where rates have increased by 1.66%.</p>	<p>NA</p>
<p>Skin and subcutaneous diseases</p>	<p>Within England, Skin and subcutaneous diseases ranked as #2 cause for YLD in 2007 and #2 in 2016.</p> <p>Over these years, YLD rates increased (from 10.11 to 10.13, or 0.13%), whereas the 3 best performing comparator country's rates decreased by and average of-0.2%.</p> <p>In 2016, the YLD rate was in the lower half of comparator country distributions.</p>	<p>Within England, Skin and subcutaneous diseases ranked as #70 cause for YLL in 2007 and #62 in 2016.</p> <p>Over these years, YLL rates decreased (from 691.52 to 622.97, or -9.91%), whereas the 3 best performing comparator country's rates decreased by and average of-8.29%.</p> <p>In 2016, the YLL rate was in the upper half of comparator country distributions.</p>

Cause	Morbidity	Mortality
	<p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Canada, Sweden, United States and significantly worse than in Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Spain, Wales.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Spain, Sweden, Wales and significantly worse than in United States.</p> <p>Overall, the 'best' comparator country is United States where rates have decreased by -0.97%, and the 'worst' comparator country is Germany where rates have increased by 1.89%.</p>	<p>Mean YLL rate per 100,000 over the past 10 years was significantly better in England than in and significantly worse than in Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Northern Ireland, Norway, Portugal, Spain, Sweden, Wales.</p> <p>Mean rate of change in YLL rates over the past 10 years was significantly better in England than in Germany, Norway, Sweden and significantly worse than in Belgium, France, Netherlands, Spain.</p> <p>Overall, the 'best' comparator country is Finland where rates have decreased by -8.5%, and the 'worst' comparator country is Germany where rates have increased by 12.7%.</p>
Stroke	<p>Within England, Stroke ranked as #15 cause for YLD in 2007 and #17 in 2016.</p> <p>Over these years, YLD rates decreased (from 40.43 to 38.63, or -4.46%), whereas the 3 best performing comparator country's rates decreased by an average of -10.19%.</p> <p>In 2016, the YLD rate was in the lower half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Austria, Belgium, Canada, Denmark, Finland, Germany, Greece, Iceland, Ireland, Luxembourg, Netherlands, Northern Ireland, Norway, Portugal, Scotland, Sweden, United States, Wales and significantly worse than in Australia, France, Italy, Spain.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Austria, Luxembourg, Scotland and significantly worse than in Denmark, Finland, Portugal.</p>	<p>Within England, Stroke ranked as #3 cause for YLL in 2007 and #3 in 2016.</p> <p>Over these years, YLL rates decreased (from 595.26 to 517.01, or -13.15%), whereas the 3 best performing comparator country's rates decreased by an average of -30.1%.</p> <p>In 2016, the YLL rate was in the lower half of comparator country distributions.</p> <p>Mean YLL rate per 100,000 over the past 10 years was significantly better in England than in Denmark, Finland, Greece, Northern Ireland, Portugal, Scotland, United States, Wales and significantly worse than in Australia, Austria, Canada, France, Germany, Iceland, Ireland, Italy, Netherlands, Norway, Spain, Sweden.</p> <p>Mean rate of change in YLL rates over the past 10 years was significantly better in England than in United States and significantly worse than in Denmark, Portugal.</p>

Cause	Morbidity	Mortality
	<p>Overall, the 'best' comparator country is Portugal where rates have decreased by -12.13%, and the 'worst' comparator country is Luxembourg where rates have increased by 0.87%.</p>	<p>Overall, the 'best' comparator country is Denmark where rates have decreased by -31.93%, and the 'worst' comparator country is United States where rates have decreased by -6.51%.</p>
<p>Tracheal, bronchus, and lung cancer</p>	<p>Within England, Tracheal, bronchus, and lung cancer ranked as #66 cause for YLD in 2007 and #63 in 2016.</p> <p>Over these years, YLD rates decreased (from 0.59 to 0.54, or -7.39%), whereas the 3 best performing comparator country's rates decreased by and average of -10.32%.</p> <p>In 2016, the YLD rate was in the upper half of comparator country distributions.</p> <p>Mean YLD rate per 100,000 over the past 10 years was significantly better in England than in Belgium, Canada, Denmark, Iceland, Luxembourg, Netherlands, Northern Ireland, Scotland, United States, Wales and significantly worse than in Australia, Austria, Finland, France, Germany, Greece, Ireland, Italy, Norway, Portugal, Spain, Sweden.</p> <p>Mean rate of change in YLD rates over the past 10 years was significantly better in England than in Wales and significantly worse than in Denmark, Greece, Portugal, Spain.</p> <p>Overall, the 'best' comparator country is Portugal where rates have decreased by -11.98%, and the 'worst' comparator country is Australia where rates have increased by 10.08%.</p>	<p>Within England, Tracheal, bronchus, and lung cancer ranked as #2 cause for YLL in 2007 and #2 in 2016.</p> <p>Over these years, YLL rates decreased (from 10.08 to 8.59, or -14.77%), whereas the 3 best performing comparator country's rates decreased by and average of -19.69%.</p> <p>In 2016, the YLL rate was in the upper half of comparator country distributions.</p> <p>Mean YLL rate per 100,000 over the past 10 years was significantly better in England than in Belgium, Canada, Denmark, France, Greece, Netherlands, Northern Ireland, Scotland, United States, Wales and significantly worse than in Australia, Austria, Finland, Italy, Norway, Portugal, Spain, Sweden.</p> <p>Mean rate of change in YLL rates over the past 10 years was significantly better in England than in and significantly worse than in Denmark, Ireland, Netherlands, Norway, Scotland, Spain.</p> <p>Overall, the 'best' comparator country is Denmark where rates have decreased by -20.52%, and the 'worst' comparator country is Wales where rates have decreased by -7.28%.</p>

8. References

- ¹ Christopher J L Murray et al. GBD 2010: a multi-investigator collaboration for global comparative descriptive epidemiology; *www.thelancet.com* Vol 380 December 15/22/29, 2012
- ² Nicholas Steel et al., Changes in health in the countries of the UK and 150 English Local Authority areas 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016; *Lancet* 2018; 392: 1647–61 Published Online October 24, 2018 <http://dx.doi.org/10.1016/>
- ³ GBD 2016 Disease and Injury Incidence and Prevalence Collaborators, Global, regional, and national incidence, prevalence, and years lived with disability for 328 diseases and injuries for 195 countries, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016; *Lancet* 2017; 390: 1211–59
- ⁴ Supplement to: GBD 2016 Disease and Injury Incidence and Prevalence Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 328 diseases and injuries for 195 countries, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet* 2017; 390: 1211–59.
- ⁵ John N Newton et al., Changes in health in England, with analysis by English regions and areas of deprivation, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013; September 15, 2015 [http://dx.doi.org/10.1016/S0140-6736\(15\)00195-6](http://dx.doi.org/10.1016/S0140-6736(15)00195-6)
- ⁶ Institute of Health Metrics and Evaluation. Global Burden of Disease Study 2016 (GBD 2016) Data Input Sources Tool 2018. <http://ghdx.healthdata.org/gbd-2016/data-input-sources>)
- ⁷ John N Newton et al., Changes in health in England, with analysis by English regions and areas of deprivation, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013; *Lancet* 2015; 386: 2257–74 Published Online September 15, 2015 [http://dx.doi.org/10.1016/S0140-6736\(15\)00195-6](http://dx.doi.org/10.1016/S0140-6736(15)00195-6)
- ⁸ Nolte E, McKee M. Measuring the health of nations: analysis of mortality amenable to health care. *BMJ* 2003; 327: 1129
- ⁹ GBD 2016 Healthcare Access and Quality Collaborators, Measuring performance on the Healthcare Access and Quality Index for 195 countries and territories and selected subnational locations: a systematic analysis from the Global Burden of Disease Study 2016. *Lancet*. 2018;391(10136):2236-71
- ¹⁰ GBD 2015 Healthcare Access and Quality Collaborators, Healthcare Access and Quality Index based on mortality from causes amenable to personal health care in 195 countries and territories, 1990–2015: a novel analysis from the Global Burden of Disease Study 2015; *Lancet* 2017; 390: 231–66; Published Online May 18, 2017 <http://dx.doi.org/10.1016/>
- ¹¹ <http://www.healthdata.org/cht>
- ¹² Kyle J Foreman et al., Forecasting life expectancy, years of life lost, and all-cause and cause-specific mortality for 250 causes of death: reference and alternative scenarios for 2016–40 for 195 countries and territories *Lancet* 2018; 392: 2052–90 Published Online October 16, 2018 [http://dx.doi.org/10.1016/S0140-6736\(18\)31694-5](http://dx.doi.org/10.1016/S0140-6736(18)31694-5)
- ¹³ [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(18\)31694-5/fulltext#sec1](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)31694-5/fulltext#sec1)