Public Health Scotland

Scottish Burden of Disease Study 2019

Summary of health loss in East Dunbartonshire

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Contents

Introduction

The Scottish Burden of Disease study has been updated to provide estimates of the burden of disease in local areas in 2019.

Burden of Disease studies assess how ill-health and early death, due to disease and injury, prevent us from living longer and healthier lives. They use a single composite measure of health loss which combines the years lost to ill-health (years lived with disability - YLD) and the years lost due to early death (years of life lost - YLL). The measure used to describe the overall burden of disease is called the disability-adjusted life year (DALY).

This briefing summarises how disease and injury are impacting residents of **East Dunbartonshire** from living longer lives, in better health. It is intended to provide an overview of the data available – including a five-year time series (2014-2019) - in our local area visualisation.

See Creation of these estimates for more details on how the disease burden has been estimated.

REVISION: 16 SEPTEMBER 2022 - Some data in this report have been revised. Due to an analytical error, the fatal burden for aortic aneurysm and skin and subcutaneous diseases were not included in the overall burden. This has resulted in minor changes to Figure 1, Table 1 and Figure 2.

Why burden of disease?

Burden of disease studies provide a consistent and comprehensive framework to address some fundamental questions on how early death and ill-health affect the nation's population:

- What diseases cause the largest population health loss and how much do they contribute to health inequalities, nationally and sub nationally?
- Which risk factors are the strongest contributors to disease and death?
- How is the impact of different diseases evolving over time, e.g. are background rates increasing, or are pressures due to increased population ageing?
- And how does it compare between areas across Scotland?

Understanding which diseases and injuries pose the greatest threat to population health and well-being helps public health practitioners and policy-makers evaluate how to use limited resources for maximum benefit.

Burden of disease studies can assist policy makers and public health practitioners to plan interventions and deliver services to enhance prevention, improve disease outcomes, and reduce health inequalities.

Why it is important to measure disease burden:

- Population health surveillance
- Prioritising actions in health and the environment
- Planning for preventive action
- Assessing performance of healthcare systems
- Comparing action and health gain
- Identifying high-risk populations
- Planning for future needs
- Setting priorities in health research

We might ask, for example, how burden of disease measures in your area determine:

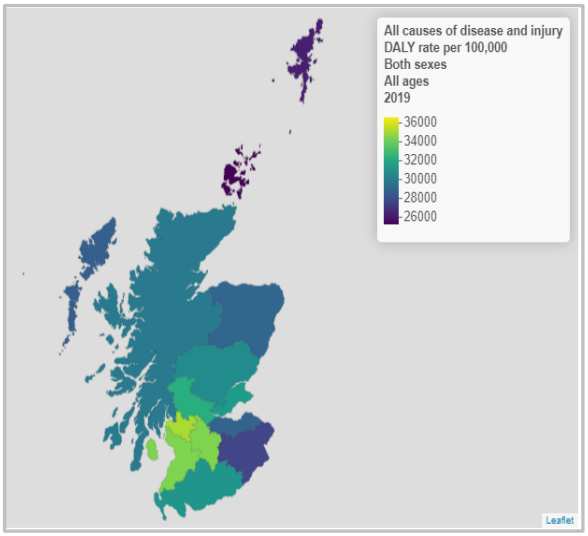
- Whether the problem with a disease is getting worse or better?
- Whether the disease is worse or better compared to other areas?
- How diseases in an area compare with each other?
- How as the disease burden changed over time?

Examples of the application of burden of disease data in local areas can be seen Inverclyde Health and Social Care Partnership Strategic Needs Assessment 2019 and West Dunbartonshire Health & Social Care Partnership Strategic Needs Assessment 2018.

Main points

- This briefing summarises how causes of disease and injury are impacting residents of **East Dunbartonshire** from living longer lives, in better health.
- These outputs are intended to support the ongoing and future monitoring of population health in local areas across Scotland.
- Using these pre COVID-19 pandemic burden estimates can be helpful to local areas as a baseline to understand their underlying population health, reflecting the absolute level of population health hazard which diseases and injuries pose.

Our data explorer allows you to interact with our BOD estimates for 70 diseases and injuries, by sub national areas in Scotland:

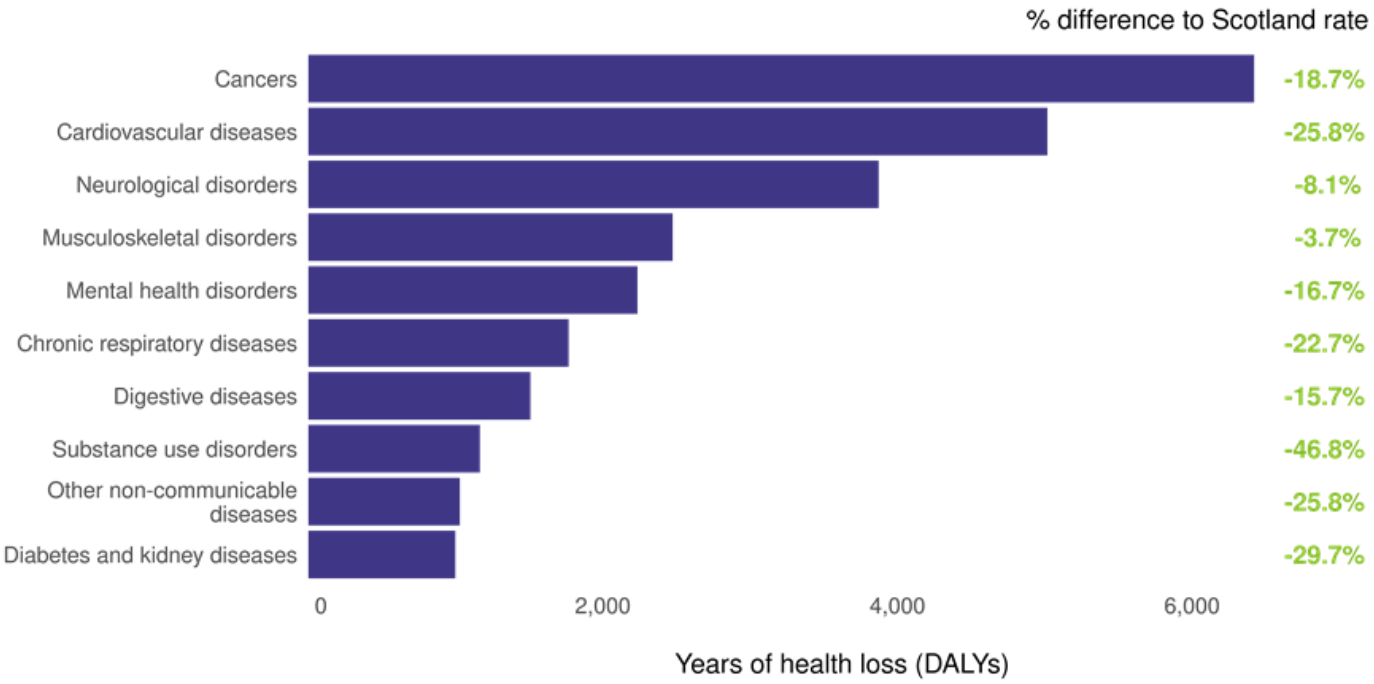


Results and commentary

Leading grouped causes of health loss

The three leading groups of causes of ill-health and early death in **East Dunbartonshire** are **cancers, cardiovascular diseases** and **neurological disorders**. These groups of causes account for **50**% of the total burden of health loss. The largest differences in burden - compared to Scotland - occur due to **substance use disorders, diabetes and kidney diseases** and **other non-communicable diseases**.

Figure 1: Leading grouped causes of ill health and early death[R]



Overall, the rate of health loss in East Dunbartonshire is **19**% **lower** than the Scottish rate. We estimate the total burden in 2019 has **decreased 1%** compared to the burden in 2016. Leading individual causes of ill health and early death are shown in the next section.

R: 16 SEPTEMBER 2022 - Paragraph 1 has been updated. The largest differences in burden – compared to Scotland – have changed to **substance use disorders, diabetes and kidney diseases** and **cardiovascular diseases** from **substance use disorders, diabetes and kidney diseases** and **other non-communicable diseases**.

Figure 1 has been updated to reflect corrections to the underlying data. There was no change to the rankings of leading grouped causes, the percentage difference to the Scotland rate for cardiovascular diseases is -25.8%, revised from -25.5%.

Leading *individual causes* of ill health and early death

Table 1: Leading individual causes of ill health and early death[R]

	Ill health	% difference from Scotland
1	Low back and neck pain	-7.4%
2	Depression	-15.9%
3	Headache disorders	-2.9%
4	Anxiety disorders	-15.0%
5	Osteoarthritis	-4.3%
6	Diabetes mellitus	-11.2%
7	Other musculoskeletal disorders	2.6%
8	Age-related and other hearing loss	3.9%
9	Cerebrovascular disease	-14.0%
10	Skin and subcutaneous diseases	5.1%

Ranking based upon the total YLD
% change based upon age-sex standardised YLD rates

	Early death	% difference from Scotland
1	Ischaemic heart disease	-26.4%
2	Alzheimer's disease and other dementias	-10.2%
3	Lung cancer	-22.8%
4	Other cancers	0.1%
5	Chronic obstructive pulmonary disease	-29.3%
6	Cerebrovascular disease	-34.9%
7	Colorectal cancer	0.2%
8	Lower respiratory infections	-7.6%
9	Self-harm and interpersonal violence	-11.4%
10	Other cardiovascular and circulatory diseases	-24.7%

Ranking based upon the total YLL
% change based upon age-sex standardised YLL rates

Rate lower than Scotland | Rate higher than Scotland

Table 1 shows the leading *individual* causes of ill health and early death in East Dunbartonshire and comparison with Scotland.

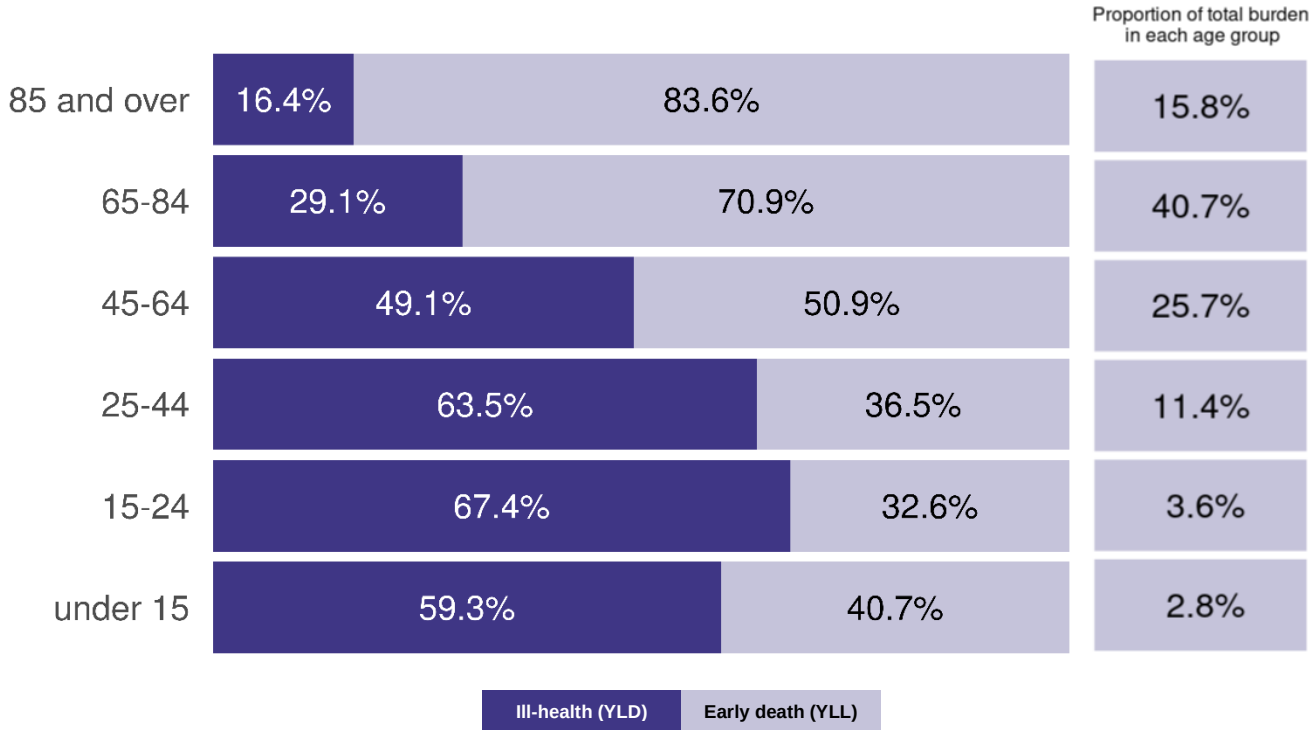
- The leading cause of ***ill health*** in East Dunbartonshire is **low back and neck pain**, the rate of which is **7.4% lower** than in Scotland.
- The leading cause of ***early death*** in East Dunbartonshire is **ischaemic heart disease**, the rate of which is **26.4% lower** than in Scotland.

R: 16 SEPTEMBER 2022 - The leading individual causes of early death in Table 1 were revised to reflect corrections to the underlying data. *Other cardiovascular and circulatory diseases* enter in the ranks under the 10th position and *Cirrhosis and other chronic liver diseases* is not in the top 10 ranking anymore.

How is the burden of disease split between ill-health and early death?

The figures below illustrate how health loss is split between the burden due to early death (YLL) and the burden due to ill-health (YLD). Overall in East Dunbartonshire, **62**% of the burden is due to early death and **38**% to ill-health in the population, but this does vary with age.

Figure 2: Proportional split between burden due to ill health and early death[R]



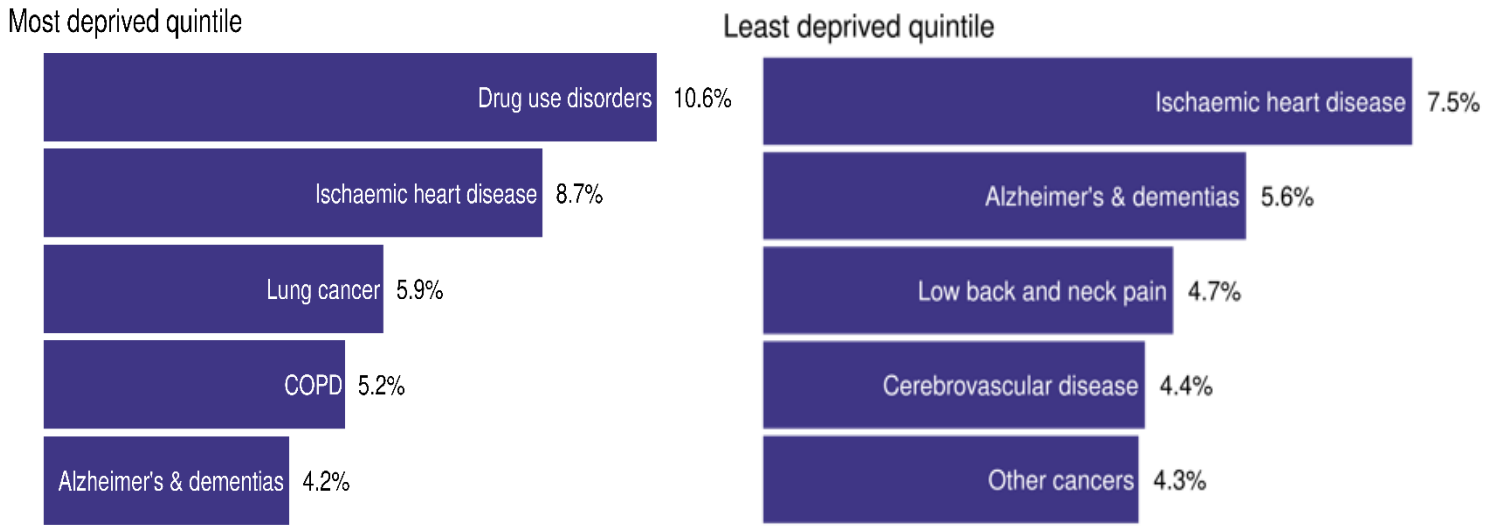
R: 16 SEPTEMBER 2022 - Figure 2 has been revised to reflect minor changes (up to +/-0.4%) to the proportional split by age group. The proportion of the total burden in each age group has also been updated to reflect minor changes.

Health inequalities your local NHS region

Estimates of the burden by deprivation level (population fifths) have been produced for each NHS region in Scotland (North, East and West). Estimates have not been produced at smaller geographic level due to the uncertainty in the data which would be introduced. Analysis of the health inequalities in the **West Region** are shown here.

- We estimate that the rate of health loss in the most deprived 5th of the population in the West region was **2.1** times as high as the rate in the least deprived 5th of the population[1].
- We estimate that **52%** of the health loss in the most deprived 5th of the population in the West region could have been avoided if the population in this quintile experienced the same rate as those in the least deprived 5th of the population[1].

Figure 3: Leading individual causes of ill health and early death by proportion in the most and least deprived quintiles[1]



1. Scottish Index of Multiple Deprivation (SIMD) 2020v2

Glossary

Burden of disease (and injury)

The quantified impact of a disease or injury on a population using the disability-adjusted life years (DALY) measure.

DALY (disability-adjusted life year)

a standardized metric that can be used to quantify the health loss due to dying prematurely or to living with the health consequences of diseases, injuries or risk factors. DALYs are a summary metric of population health. DALYs are an absolute measure of health loss; they count how many years of healthy life are lost due to death and non-fatal illness or impairment. They reflect the number of individuals who are ill or die in each age-sex group and location.

Disability

In burden of disease studies, this is synonymous for “loss of health”, or any, short or long term, departure from full health.

Early death

The burden from dying prematurely. Often used synonymously with years of life lost.

Ill-health

Often used synonymously with years lived with disability.

Health Loss

The total burden from early death and ill-health. Often used synonymously with disability adjusted life year (DALY).

Life expectancy

The average number of years of life expected to be lived by individuals who survive to a specific age.

YLD (Years of Life lived with a Disability):

YLDs are computed as the prevalence of different disease-sequelae and injury-sequelae multiplied by the disability weight for that sequela. Disability weights are selected on the basis of surveys of the general population about the loss of health associated with the health state related to a disease sequela.

YLL (Years of Life Lost due to early death/premature mortality):

YLLs are computed by multiplying the number of deaths at each age x by a standard life expectancy at age x. In SBoD we use an aspirational world life expectancy table developed for the Global Burden of Disease study.

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Further information

Further information and data for this publication are available from the publication page on our website.

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Appendices

Appendix 1 – Background information

Creation of these estimates

Burden due to early death (YLL)

The burden of early death is derived from the observed deaths occurring within a local area, based on an individual's postcode of residence. The YLL for an individual is estimated as the aspirational remaining life expectancy at age of death.

Burden due to living in ill-health (YLD)

For this update, the burden of ill-health at national level has been modelled based on the estimates of prevalence derived for the 2016 Scottish Burden of Disease estimates. Prevalence and YLD rates at age, sex and deprivation have been applied to 2019 population estimates to generate national estimates for 2019. Estimates for local areas have then been modelled using these national results and local age, sex, deprivation population profiles.

covid-19

These data have been produced for 2019 and therefore do not include any estimates of the effect of covid-19 in the population. Using these pre COVID-19 pandemic burden estimates can be helpful to local areas as a baseline to understand their underlying population health, reflecting the absolute level of population health hazard which diseases and injuries pose.

Further information

Full data visualisation for the burden of disease in East Dunbartonshire is available from the Scottish Burden of Disease local area visualisation. The visualisation provides information on the burden for 72 causes of disease at age and gender. Comparison data is available for all local authorities, health boards and regions. This page also provides further information on how the burden has been calculated and advice on how it should be interpreted and compared with other areas.

Further information on the background to the Scottish Burden of Disease study, methodology and other key publications can be found on our main web page.

For further information on the Scottish Burden of Disease and how the data can be used, please contact the team (phs.sbod@phs.scot).

Appendix 2 – Publication metadata

Metadata indicator	Description
Publication title	Scottish Burden of Disease
Description	Release of Scottish Burden of disease estimates at Scotland, region, NHS Board and local authority levels for 2019.
Theme	Population health
Topic	Burden of disease
Format	PDF and Web Publication/data visualisation.
Data source(s)	Please see individual disease briefings and SBoD technical overview in our report archive for full information on data sources, methodology and time periods and completeness.
Date that data are acquired	Please see individual disease briefings and SBoD technical overview in our report archive for full information on data sources, time periods and completeness.
Release date	21/09/2021
Frequency	Ad hoc
Timeframe of data and timeliness	The publication includes results for 2019. The accompanying data visualisations include results for 2014-2019.
Continuity of data	Please see individual disease briefings and SBoD technical overview in our report archive for full information on data sources, methodology and time periods and completeness.
Revisions statement	The publication contains new data for 2017-2019. The data visualisation accompanying this release includes data for 2014-2019, including updated data for 2016 which uses updated methodology.
Revisions relevant to this publication	The accompanying data visualisation uses an updated methodology; it is not comparable to previous releases using the old methodology.
Concepts and definitions	Please see Glossary
Relevance and key uses of the statistics	Population health surveillance; Quality improvement and assurance.
Accuracy	In order to provide a measure of accuracy and relevance of the estimated disease DALYs to users, a measure of data quality has been developed for the SBoD study. This measure assigns a RAG (Red; Amber; Green) status to each disease or injury indicative of the accuracy and relevance of the estimates. Further information on this approach is available in our data explorer: https://scotland.shinyapps.io/phs-local-trends-scottish-burden-diseases/

Metadata indicator	Description
Completeness	Please see individual disease briefings and SBoD technical overview in our report archive for full information on data sources, methodology and time periods and completeness.
Comparability	Although underlying data sources may differ, data are generally comparable with burden of disease estimates published by the Global Burden of Disease Study. This allows for comparison with countries world wide.
Accessibility	It is the policy of PHS to make its websites and products accessible according to published guidelines.
Coherence and clarity	Measures to enhance coherence and clarity within this report include: explanatory chart/table notes, minimal use of abbreviations/abbreviations explained in the text, comprehensive notes on background and methodology.
Value type and unit of measurement	Figures are shown as absolute number, percentages and age-standardised rates. Units of measurement are disability-adjusted life years (DALYs); years lived with disability (YLDs) and years of life lost (YLL). Please see Glossary for further details.
Disclosure	The PHS protocol on Statistical Disclosure Protocol is followed
Official Statistics designation	Management Information
UK Statistics Authority Assessment	Not put forward for assessment
Last published	First publication
Next published	To be confirmed.
Date of first publication	Not applicable.
Help email	phs.sbod-team@phs.scot
Date form completed	10/09/2021

Appendix 3 – Early access details

Pre-Release Access

Under terms of the "Pre-Release Access to Official Statistics (Scotland) Order 2008", PHS is obliged to publish information on those receiving Pre-Release Access ("Pre-Release Access" refers to statistics in their final form prior to publication). The standard maximum Pre-Release Access is five working days. Shown below are details of those receiving standard Pre-Release Access.

Standard Pre-Release Access:

Scottish Government Health Department

NHS Board Chief Executives

NHS Board Communication leads

Early Access for Management Information

These statistics will also have been made available to those who needed access to ‘management information’, i.e. as part of the delivery of health and care.

Early Access for Quality Assurance

These statistics will also have been made available to those who needed access to help quality assure the publication.

Appendix 4 – PHS and Official Statistics

About Public Health Scotland (PHS)

PHS is a knowledge-based and intelligence driven organisation with a critical reliance on data and information to enable it to be an independent voice for the public's health, leading collaboratively and effectively across the Scottish public health system, accountable at local and national levels, and providing leadership and focus for achieving better health and wellbeing outcomes for the population. Our statistics comply with the Code of Practice for Statistics in terms of trustworthiness, high quality and public value. This also means that we keep data secure at all stages, through collection, processing, analysis and output production, and adhere to the 'five safes'.