



**British Heart
Foundation**

England Factsheet

November 2018

Our vision is a world without heart and circulatory diseases. We want to end the heartbreak that they cause

Key Statistics

Today in England

340

people will lose
their lives to CVD

...more than

90 people
will be
younger than **75**

5.9m

people are living
with CVD

430

hospital visits will
be due to a
heart attack

150

people will die
from coronary
heart disease

10

babies will be
diagnosed with
a heart defect

Quick Links

Heart and Circulatory Diseases	Cost	Coronary Heart Disease	Heart Attack
Atrial Fibrillation	Heart Failure	Stroke	Out-of-Hospital Cardiac Arrest
Congenital Heart Disease	Inherited (Genetic) Conditions	Vascular Dementia	Risk Factors

Heart and Circulatory Diseases (Cardiovascular Disease; CVD)

Heart and circulatory diseases is an umbrella term that describes all diseases of the heart and circulation. It includes everything from conditions that are inherited, or that a person is born with, to those that develop later such as coronary heart disease, atrial fibrillation, heart failure, and stroke.

- Heart and circulatory diseases cause one quarter (25 per cent) of all deaths in England; that's over 124,000 deaths each year – an average of 340 people each day or one death every four minutes.
- Around 34,000 people under the age of 75 in England die from CVD each year.
- Since the BHF was established the annual number of deaths from CVD in England has fallen by more than half.
- In 1961, more than half of all deaths in England were attributed to CVD (264,192 deaths).
- Since 1961 the English death rate from CVD has declined by more than three quarters. Death rates have fallen more quickly than the actual number of deaths because people in this country are now living longer.
- There are around 5.9 million people living with CVD in England - an ageing and growing population and improved survival rates from heart and circulatory events could see these numbers rise still further.



Around
5.9 million
people live with heart and
circulatory diseases in England

Linked conditions

Around 80 percent of people with heart and circulatory diseases have at least one other condition

Deaths from and numbers living with Heart and Circulatory Diseases

Nation	No. of People Dying from CVD (2017)	No. of People Under 75 Years Old Dying from CVD (2017)	Estimated Number of People Living with CVD (latest estimates)
England	124,641	33,830	5.9 million
Scotland	15,114	4,676	700,000
Wales	8,426	2,500	375,000
Northern Ireland	3,780	1,102	225,000
United Kingdom	152,405	42,384	7 million +

Deaths BHF/University of Birmingham analysis from latest official statistics (ONS/NISRA/NRS); UK total includes non-residents (ONS data)
Living with CVD estimates based on latest health surveys with CVD fieldwork and GP patient data

- Early deaths from CVD (before the age of 75) are most common in the North West, closely followed by the North East, and lowest in the South East of England.
- Death rates take the age structure (demography) of local areas into account to reveal the real differences in statistics. This is very important when there are big variations in the age profile of communities across England.
- The premature (under 75) death rate for Manchester (140.7 per 100,000) is nearly 4 times higher than that for Mid Suffolk in the East of England (37.0 per 100,000).
- Regional and local UK statistics and rankings for CVD deaths can be found on [our website](#)

UK premature (under 75 years) death rates 2014-16

Local Authority	Location	Under 75 Death Rate per 100,000 Population	Under 75 Annual Number of CVD Deaths
Manchester	North West	140.7	376
Blackpool	North West	119.8	153
Blackburn with Darwen	North West	117.4	127
Middlesbrough	North East	114.9	123
Nottingham	East Midlands	112.5	210

The cost of Heart and Circulatory Diseases

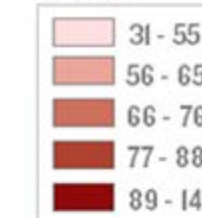
- Healthcare costs relating to heart and circulatory diseases are estimated at £7.4 billion each year.
- CVD's cost to the wider economy in England (including premature death, disability and informal costs) is estimated to be £15.8 billion each year.

The total annual healthcare cost of heart and circulatory disease in England is

£7.4
BILLION

PREMATURE CVD DEATH RATE age standardised per 100,000 population

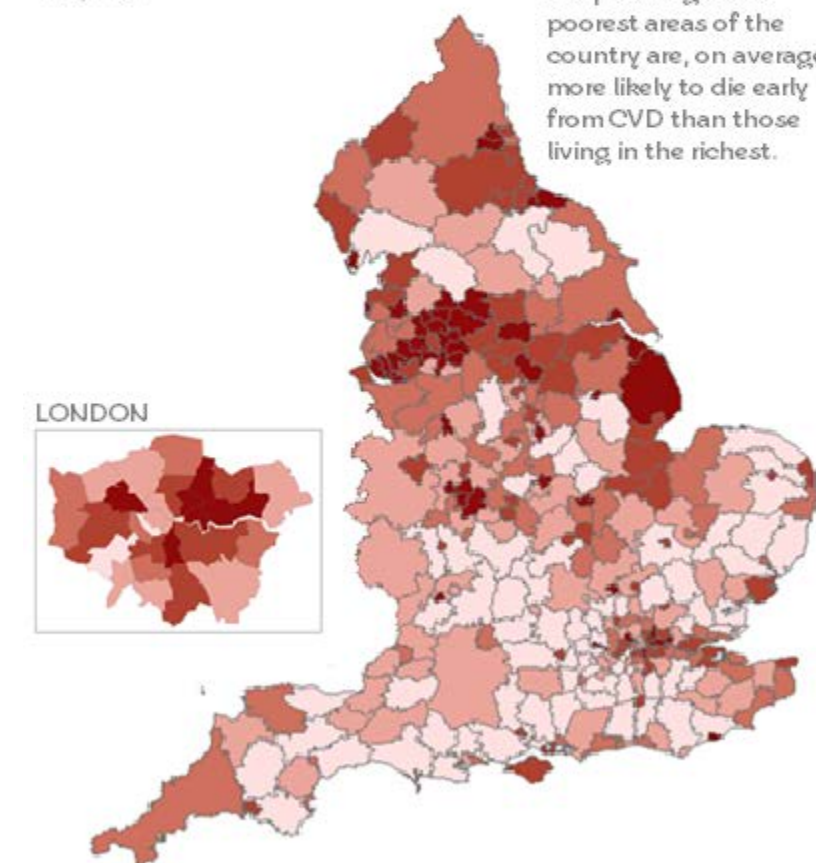
LOWEST



HIGHEST

Our vision is a world where people do not die prematurely from cardiovascular disease (CVD).

People living in the poorest areas of the country are, on average, more likely to die early from CVD than those living in the richest.



BHF/University of Birmingham in collaboration with ONS (2014-16 data)

Coronary Heart Disease (CHD; Ischaemic Heart Disease)

Coronary heart disease (CHD) is the most common type of heart and circulatory disease. It occurs when coronary arteries become narrowed by a build-up of atheroma, a fatty material within their walls. The pain or discomfort felt from such narrowing is called angina and if a blockage occurs it can cause a myocardial infarction (heart attack).

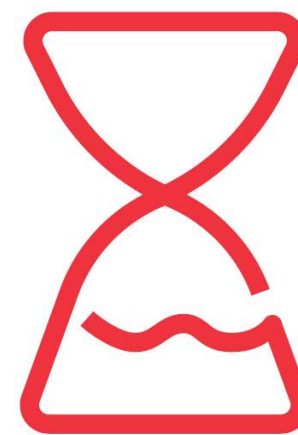
- 1.8 million people are living with CHD in England
- CHD is the one of England's leading causes of death.
- It is also the **leading cause of death worldwide**.
- In England, one in seven men and one in twelve women die from coronary heart disease (1 in 9 overall).
- CHD is responsible for over **53,000 deaths** in England each year, an average of 150 people each day, or one death around every ten minutes.
- More than **18,000** people under the age of 75 in England die from CHD each year.
- CHD twice as many women in England as breast cancer.
- Since the BHF was established the annual number of CHD deaths in England has fallen by more than half.
- Coronary heart disease is the leading cause of heart attacks

Linked conditions

- Individuals with coronary heart disease, or who have had a heart attack, are **twice as likely** to have a **stroke** as those who haven't.

For more info
please visit:

➤ *Coronary Heart
Disease*



**Every
10 minutes**
someone in England
dies from coronary
heart disease

Heart Attack (Myocardial Infarction, MI)

- In England there are over 157,000 hospital visits each year due to heart attacks: that's **1 every 3 minutes**.
- In the 1960s more than 7 out of 10 heart attacks in the UK were fatal. Today at least 7 out of 10 people survive.
- An estimated 750,000 people alive in England today have survived a heart attack.



**Every
3 minutes**

someone in England
goes to hospital due
to a heart attack

Atrial Fibrillation (AF)

Atrial fibrillation is one of the most common forms of abnormal heart rhythm (arrhythmia) and a major cause of stroke.

- More than 1.1 million people in England have been diagnosed with atrial fibrillation.
- It's estimated that there are hundreds of thousands of people living with undiagnosed AF in England.

Linked conditions

- People with AF are five times more likely to have a stroke
- AF is a contributing factor to one in five strokes

For more info
please visit:

- *Heart Attacks*
- *Atrial Fibrillation*
- *Heart Failure*

Heart Failure

Heart failure occurs when the heart is not pumping blood around the body as well as it should, most commonly when the heart muscle has been damaged – for example, after a heart attack.

- Nearly 500,000 people in England have been diagnosed with heart failure by their GP.



Nearly **500,000**
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Stroke (Cerebrovascular Disease)

A stroke occurs when the blood supply to part of the brain is cut off, causing brain cells to become damaged. A transient ischaemic attack (TIA) is also known as a "mini-stroke" and is caused by a temporary disruption in the blood supply to part of the brain.

- Strokes cause around 30,000 deaths in England each year.
- In England over 200,000 hospital visits are attributed to stroke each year.
- Over 1 million people living in England have survived a stroke or transient ischaemic attack (TIA).
- Nearly half of stroke survivors in England are under the age of 75.

Regional and local UK statistics and rankings for stroke deaths can be found on [our website](#)

For more information on strokes visit [our website](#)

Linked conditions

- People with heart failure are 2-3 times more likely to have a stroke.
- People with diabetes are twice as likely to have a stroke as people without diabetes

Out-of-Hospital Cardiac Arrest (OHCA)

Cardiac arrest is a critical medical emergency, where the heart stops pumping blood around the body. Unless treated immediately, it leads to death within minutes.

- There are around 30,000 out-of-hospital cardiac arrests (OHCAs) in England each year.
- The overall survival rate in England is 1 in 11.
- The Chain of Survival is a sequence of steps that together maximise the chance of survival following cardiac arrest.
- Every minute without cardiopulmonary resuscitation (CPR) and defibrillation reduces the chance of survival by up to 10 per cent.
- Performing CPR can more than double the chances of survival in some cases (ventricular fibrillation).

For more on cardiac arrest visit [our website](#)



There are
around **30,000**
out-of-hospital
cardiac arrests in
England each year

Congenital Heart Disease

Congenital heart disease is a heart condition or defect that develops in the womb before a baby is born.

- Heart defects are diagnosed in at least 1 in 180 births - that's an average of **10 babies** each day in England - with more diagnoses later in life.
- Estimates suggest that as many as 1-2 per cent of the population may be affected.
- Before the BHF existed, the majority of babies born in the UK with a heart defect did not survive to their first birthday. Today, thanks to research, around **8 out of 10** survive to adulthood.

For more information, visit [our website](#)



10 babies a day are diagnosed with a congenital heart defect in England

Inherited (Genetic) Conditions

These are conditions which can be passed on through families, affect people of any age and may be life-threatening.

- They include hypertrophic cardiomyopathy (HCM; estimated 1 in 500 people) and familial hypercholesterolaemia (FH; 1 in 250).
- It's estimated that around 525,000 people in England have a faulty gene which puts them at an unusually high risk of developing heart disease or dying suddenly at a young age.
- In the UK it is estimated that at least 12 young people (aged under 35) die every week from an undiagnosed heart condition.

For more information, visit our website:-

[Inherited heart conditions](#)

[Familial hypercholesterolemia](#)



Around 525,000 people in England have a faulty gene that can cause an inherited heart-related condition

Vascular Dementia

Vascular dementia happens when there's a problem with the blood supply to an area of your brain. The cells in the affected area of your brain don't get enough oxygen or nutrients and start to die. This leads to symptoms such as concentration problems and personality changes.

- Vascular Dementia is estimated to affect around 150,000 people in the UK.

For more information on vascular dementia, visit [our website](#)

Medical Risk Factors

Many different risk factors increase your likelihood of developing heart and circulatory diseases.

High Blood Pressure

- An estimated 28% of adults in England have high blood pressure
- People with high blood pressure are up to three times more likely to develop heart disease or have a stroke.


High Blood Cholesterol

- High blood cholesterol is a significant risk factor for developing heart and circulatory diseases.

Linked conditions

- People with a history of heart diseases are at least twice as likely to develop vascular dementia
 - People with diabetes are 2-3 times more likely to develop vascular dementia
-
- Around 50% of heart attacks and strokes are associated with high blood pressure

Around **50%** of heart attacks and strokes are associated with high blood pressure



Diabetes

Diabetes is a condition in which blood sugar levels are elevated over a prolonged period of time. This results in damage to the inner lining of blood vessels. Consequently, diabetes is an important risk factor for CVD.

- Around 3.2 million adults in England have been diagnosed with diabetes.
- Around 10 per cent of those diagnosed are living with Type 1 diabetes and 90 per cent have Type 2.
- It's estimated that hundreds of thousands of people in England are living with undiagnosed Type 2 diabetes.

Linked conditions

- Adults with diabetes are 2-3 times more likely to develop CVD, and are nearly twice as likely to die from heart disease or stroke as those without diabetes
- In the UK, one third of adults with diabetes die from a heart or circulatory disease

Other Risk Factors

- Poor air quality is responsible for up to **36,000 deaths** per year in the UK, with a significant impact on heart and circulatory health.

The **majority** of UK deaths attributable to outdoor air pollution are from heart and circulatory diseases.

- Other risk factors can significantly increase your risk of developing heart and circulatory diseases, including age, gender, family history and ethnicity.



In the UK **one third** of adults with diabetes die from a heart or circulatory disease

For more information, visit our website:

- *High Blood Pressure (Hypertension)*
- *High Cholesterol*
- *Vascular Dementia*
- *Diabetes*

Lifestyle Risk Factors

Modifiable risk factors (e.g. cigarette smoking, physical inactivity and poor diet) contribute significantly to the risk of CVD.

Smoking

- More than **one in seven** adults smoke cigarettes in England– that's around 6.5 million adults.
- Around **78,000 smokers** in England die from smoking-related causes each year.
- It's estimated that nearly **16,000 deaths** in England each year from heart and circulatory diseases can be attributed to smoking



Overweight/Obesity

- An estimated **26 per cent** of adults in England are obese and in addition more than a third are overweight (by BMI)
- It's estimated that around **28 per cent** of children in England are overweight or obese.

Diet and Exercise

- An estimated **40 per cent** of adults in England do not meet current physical activity recommendations.
- Only one in four adults and one in six children in England consume the recommended five portions of fruit and veg per day.



About the British Heart Foundation (BHF)

For over 50 years we've pioneered research that has transformed the lives of millions of people living with heart disease. Our work has been central to the discoveries of vital treatments that are leading the fight against heart disease.

But heart and circulatory disease still kills more than one in four people in England, stealing them away from their families and loved ones. From babies born with life-threatening heart problems, to the many mums, dads and grandparents who survive a heart attack or endure their daily battles with heart failure.

Join our fight for every heartbeat in the UK. Every pound raised, minute of your time and donation to our shops will help make a difference to people's lives.

bhf.org.uk/donate

More BHF CVD Statistics

Including exclusive content, local statistics and maps
Visit [our website](#)

This factsheet is compiled by the British Heart Foundation.

Last reviewed and updated November 2018.

Statistics are the latest available from the UK's health and statistical agencies.
For any queries, please [contact us](#) and we will do our best to help.

Factsheets are also available for the UK, Scotland, Wales and Northern Ireland.



References

STATISTIC	REFERENCE
HEART & CIRCULATORY DISEASES (CARDIOVASCULAR DISEASE)	
CVD deaths, men/women	NOMIS - Office for National Statistics - Deaths registered by cause, gender and age. https://www.nomisweb.co.uk/query/construct/summary.asp?mode=construct&version=0&dataset=161
CVD ASDRs (death rates); England CVD map	BHF/University of Birmingham calculated rates in collaboration with the Office for National Statistics (2014-16 data)
Numbers living with CVD	BHF estimate based on Quality & Outcomes Framework prevalence data and latest UK health surveys with CVD fieldwork 2017/18; NHS Digital
£15.8bn CVD economic cost ~ £7.4bn healthcare costs for CVD	BHF analysis of European Cardiovascular Disease Statistics 2017, EHN (www.ehnheart.org/cvd-statistics/cvd-statistics-2017.html)
<i>Linked conditions</i> : 81% people with CVD have one other condition	Tran J, Norton R, Conrad N, Rahimian F, Canoy D, Nazarzadeh M, et al. Patterns and temporal trends of comorbidity among adult patients with incident cardiovascular disease in the UK between 2000 and 2014: A population-based cohort study. PLoS Med. 2018; 15(3):e1002513. https://doi.org/10.1371/journal.pmed.1002513 PMID: 29509757
CORONARY HEART DISEASE (CHD; ISCHAEMIC HEART DISEASE)	
CHD deaths, vs breast cancer, biggest killer worldwide	NOMIS - Office for National Statistics - Deaths registered by cause, gender and age. https://www.nomisweb.co.uk/query/construct/summary.asp?mode=construct&version=0&dataset=161 World Health Organization, <i>The Top 10 Causes of Death</i>
CHD ASDRs (death rates)	BHF/University of Birmingham calculated rates in collaboration with the Office for National Statistics (2014-16 data)
1.8m living with CHD	Quality & Outcomes Framework prevalence data 2017/18; NHS Digital https://digital.nhs.uk/data-and-information/publications/statistical/quality-and-outcomes-framework-achievement-prevalence-and-exceptions-data
HEART ATTACK (MYOCARDIAL INFARCTION, MI)	
157k heart attack hospital visits	Hospital Episode Statistics, 2016/17; NHS Digital
7/10 people survive heart attack ~ 1960s estimate	Case fatality rates in Smolina's 2012 BMJ paper on acute MI mortality (www.bmj.com/content/344/bmj.d8059) ~ Goldacre's 2003 paper on myocardial infarction (Oxon)
750k survived MI	BHF analysis of 2013 Clinical Practice Research Datalink prevalence data and ONS population estimates
ATRIAL FIBRILLATION (AF)	
1.1m diagnosed with AF ~ undiagnosed	Quality & Outcomes Framework prevalence data 2017/18; NHS Digital (undiagnosed PHE/NCVIN data and AF Association) https://digital.nhs.uk/data-and-information/publications/statistical/quality-and-outcomes-framework-achievement-prevalence-and-exceptions-data
5 times more likely to have a stroke	Marini C, De Santis F, Sacco S, Contribution atrial fibrillation to incidence and outcome of ischemic stroke: results from a population-based study. https://www.ncbi.nlm.nih.gov/pubmed/15879330
Contributor to 1 in 5 strokes	Royal College of Physicians Sentinel Stroke National Audit Programme (SSNAP). National clinical audit annual results portfolio March 2016-April 2017. Available: http://bit.ly/1NHylqH
HEART FAILURE (HF)	
486k diagnosed with heart failure by GP	Quality & Outcomes Framework prevalence data 2017/18; NHS Digital https://digital.nhs.uk/data-and-information/publications/statistical/quality-and-outcomes-framework-achievement-prevalence-and-exceptions-data

STATISTIC	REFERENCE
STROKE (CEREBROVASCULAR DISEASE)	
30k stroke deaths	NOMIS - Office for National Statistics - Deaths registered by cause, gender and age. https://www.nomisweb.co.uk/query/construct/summary.asp?mode=construct&version=0&dataset=161
200k+ stroke hospital visits	NHS Digital (2017). Hospital Episode Statistics 2016/17. https://digital.nhs.uk/data-and-information/publications/statistical/hospital-admitted-patient-care-activity/2016-17
1m+ stroke/TIA survivors	Quality & Outcomes Framework prevalence data 2017/18; NHS Digital https://digital.nhs.uk/data-and-information/publications/statistical/quality-and-outcomes-framework-achievement-prevalence-and-exceptions-data
U75 stroke survivors	BHF analysis of 2013 Clinical Practice Research Datalink prevalence data and ONS population estimates
<i>Linked conditions:</i> CHD or heart attack more than twice as likely to have a stroke	http://stroke.ahajournals.org/content/22/8/983
<i>Linked conditions:</i> People with heart failure are 2-3 times more likely to have a stroke.	http://stroke.ahajournals.org/content/42/10/2977
<i>Linked conditions:</i> People with diabetes are twice as likely to have a stroke as people without diabetes	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5298897/
CONGENITAL HEART DISEASE	
1:180 babies diagnosed	BHF/Oxford University analysis of EUROCAT congenital anomaly registers 2010-14 (NB cases exclude BAV - bicuspid aortic valve)
Survival comparison (pre-BHF/today)	MacMahon BMJ (http://heart.bmj.com/content/heartjnl/15/2/121.full.pdf) and Wren & O'Sullivan, BMJ (http://heart.bmj.com/content/85/4/438.long)
1-2% prevalence	Various estimates including Hoffman & Kaplan, JACC –19 per 1,000 includes BAVs which will eventually need cardiologic care (www.sciencedirect.com/science/article/pii/S0735109702018867)
INHERITED (GENETIC) CONDITIONS	
525K with faulty gene	PHG Foundation, <i>Heart to Heart: inherited cardiovascular conditions services</i> (2009); with revised FH prevalence estimates (see below) and DCM from Hershberger et al 2013 (www.nature.com/nrcardio/journal/v10/n9/full/nrcardio.2013.105.html)
1:250 with familial hypercholesterolaemia (FH)	Benn, Watts et al. J Clin Endocrinol Metab Aug 2012 (www.ncbi.nlm.nih.gov/pubmed/22893714) – with erratum Dec 2014; also in Eur Heart J Aug 2013, Nordestgaard et al (eurheartj.oxfordjournals.org/content/early/2013/08/15/eurheartj.eht273)
1:500 with hypertrophic cardiomyopathy (HCM)	Priori et al, Task Force on Sudden Cardiac Death ESC (eurheartj.oxfordjournals.org/content/ehj/22/16/1374.full.pdf)
Sudden cardiac deaths under-35s	Cardiac Risk in the Young (www.c-r-y.org.uk/statistics)
OUT-OF-HOSPITAL CARDIAC ARREST (OHCA)	
30k+ OHCA/year, less than 10% survival	BHF UK estimate - volumes and survival rates are only routinely published for England: NHS England (2018). Ambulance Quality Indicators. Analytical Service www.england.nhs.uk/statistics/statistical-work-areas/ambulance-quality-indicators/
Every min & CPR quadruples survival	European Resuscitation Council, Guidelines for Resuscitation 2015 (http://www.cprguidelines.eu/)

STATISTIC	REFERENCE
RISK FACTORS	
3.2m adults diagnosed with diabetes ~ undiagnosed	Quality & Outcomes Framework prevalence data 2017/18; NHS Digital https://digital.nhs.uk/data-and-information/publications/statistical/quality-and-outcomes-framework-achievement-prevalence-and-exceptions-data Diabetes UK www.diabetes.org.uk/professionals/position-statements-reports/statistics
High blood pressure (hypertension)	BHF analysis of Health Survey for England 2016; NHS Digital and ONS population estimates
High BP/CVD risk	Vasan et al NEJM 2001 (http://www.ncbi.nlm.nih.gov/pubmed/11794147/)
Smoking; number of smokers 78k/16k smoking/CVD deaths	Statistics on Smoking, England – 2018; NHS Digital https://digital.nhs.uk/data-and-information/publications/statistical/statistics-on-smoking/statistics-on-smoking-england-2018/content
Obesity, physical activity, 5-a-day, alcohol	BHF analysis of Health Survey for England 2016 (NHS Digital) and ONS population estimates
Air pollution deaths - up to 36,000 deaths per year CVD deaths	COMEAP 2018 – contributes to all mortality with equivalent impact of 28-36k deaths http://www.gov.uk/government/collections/comeap-reports World Health Organization (2016) Global Health Observatory data repository apps.who.int/gho/data/node.main.BODAMBIENTAIRDTHS?lang=en
Linked Conditions	
<i>Diabetes:</i> Adults with diabetes are 2-3 times more likely to develop CVD, and are nearly twice as likely to die from heart disease or stroke as those without diabetes	http://circ.ahajournals.org/content/59/1/8.short https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2809299/
<i>Diabetes:</i> In the UK, one third of adults with diabetes die from a heart or circulatory disease	National Diabetes Audit, Complications and Mortality, Report 2a, 2015-16, https://digital.nhs.uk/data-and-information/publications/statistical/national-diabetes-audit/national-diabetes-audit-complications-and-mortality-2015-2016
<i>Vascular dementia:</i> People with a history of heart disease are at least twice as likely to develop vascular dementia	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2924456/
<i>Vascular dementia:</i> People with diabetes are 2-3 times more likely to develop vascular dementia	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2174783/