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Stroke
association

State of the Nation

Stroke statistics

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Together we can conquer stroke



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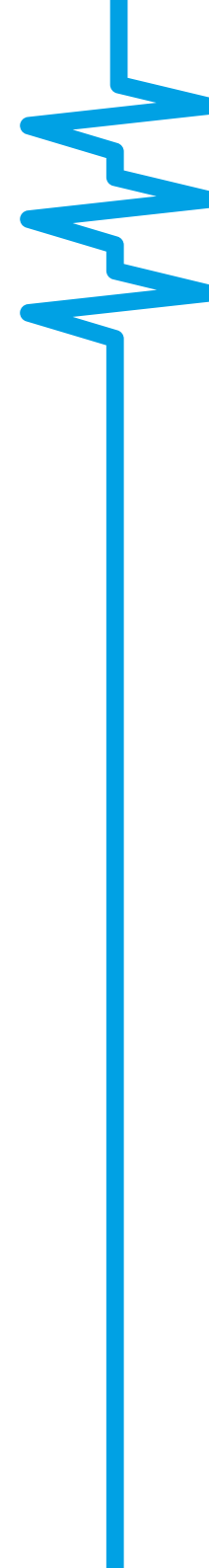
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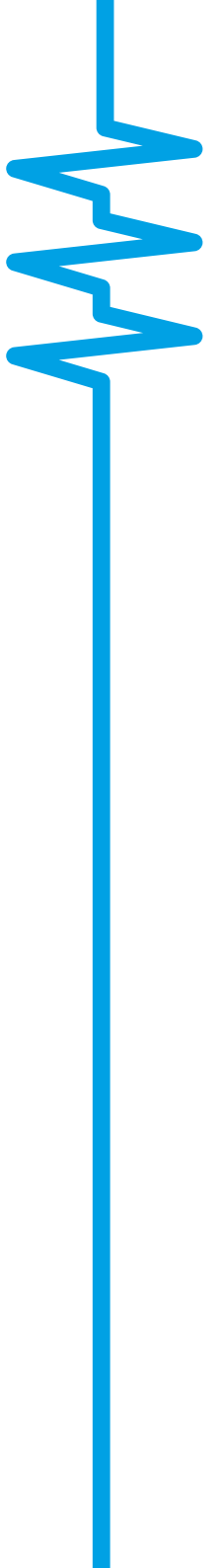
References

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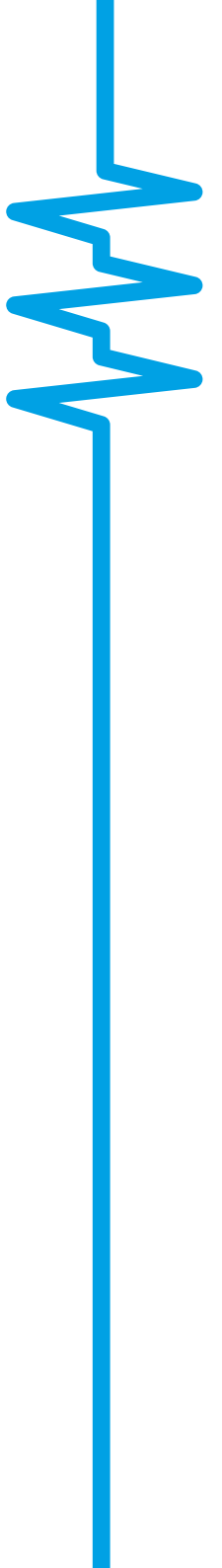
1. Glossary

- **Ischaemic stroke:**
A stroke caused by a clot.
- **Haemorrhagic stroke:**
A stroke caused by a bleed.
- **Transient ischaemic attack (TIA):**
Sometimes referred to as a 'mini-stroke' or 'warning stroke' – an event is defined as a TIA if the symptoms resolve within 24 hours.
- **ABCD2 score:**
ABCD2 is predictive tool used to assess the short-term risk of stroke after a TIA.
- **Incidence:**
The number of stroke occurrences.
- **Prevalence:**
The number of living stroke survivors.
- **Mortality:**
The number of deaths caused by stroke.
- **Epidemiology:**
The study and research of how often a disease occurs in people and why.
- **Aphasia:**
Aphasia (sometimes called dysphasia) is a language disorder caused by stroke. It can affect speech, comprehension and reading and writing skills.
- **Hyper-acute stroke unit:**
Specialist centres to manage the first 72 hours of stroke care.
- **Onset:**
When the symptoms of stroke first started. Also referred to medically as 'ictus'.
- **Thrombolysis:**
A clot-busting treatment to dissolve the clot and restore blood flow. Also referred to as 'rt-PA' and 'alteplase'.
- **Door to needle:**
The time it takes from admission to hospital (door) to administering thrombolysis treatment (needle).
- **Early supported discharge (ESD):**
Designed for stroke survivors with mild to moderate disability who can be discharged home from hospital sooner to receive the necessary therapy at home.



2. Key statistics

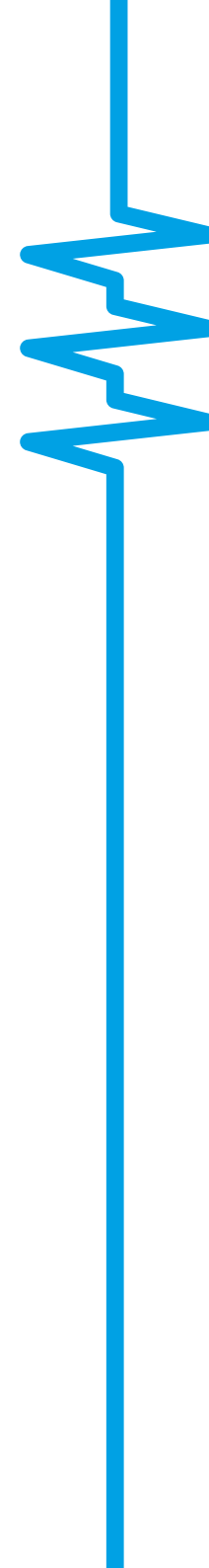
- Stroke occurs approximately **152,000 times a year** in the UK; that is one every **3 minutes 27 seconds**.
- First-time incidence of stroke occurs almost 17 million times a year worldwide; **one every two seconds**.
- There are over **1.2 million** stroke survivors in the UK.
- **3 in 10** stroke survivors will go on to have a recurrent stroke or TIA.
- **1 in 8** strokes are fatal within the first 30 days.
- **1 in 4** strokes are fatal within a year.
- Stroke is the **fourth** single largest cause of death in the UK and **second** in the world.
- By the age of 75, **1 in 5 women** and **1 in 6 men** will have a stroke.
- Stroke kills **twice** as many women as breast cancer and **more** men than prostate and testicular cancer combined a year.
- Black people are **twice as likely** to have a stroke compared to white people.
- Black and South Asian people have strokes at a **younger** age compared to white people.
- Stroke is **one of the largest causes of disability** – half of all stroke survivors have a disability.
- **Over a third** of stroke survivors in the UK are dependent on others, of those **1 in 5** are cared for by family and/or friends.
- For every cancer patient living in the UK, **£241 is spent each year** on medical research, compared with just **£48 a year** for every stroke patient.



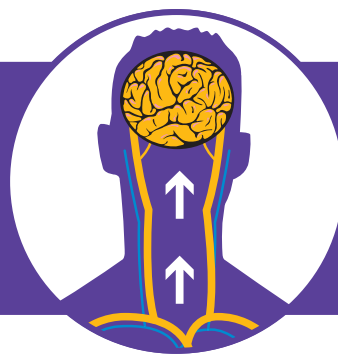
What is stroke?

3. Clots and bleeds

There are two types of strokes – ischaemic (clot) and haemorrhagic (bleed). About 85% of all strokes are ischaemic and 15% haemorrhagic.^{1 2}



Ischaemic strokes are caused by a blockage cutting off the blood supply to the brain. The blockage can be caused by a blood clot forming in an artery leading to the brain or within one of the small vessels deep inside the brain.



Haemorrhagic strokes are caused when a blood vessel bursts within or on the surface of the brain. Because the blood leaks out into the brain tissue at high pressure, the damage caused can be greater than the damage caused by strokes due to a clot.

Ischaemic strokes are usually classified into five different categories:³

1. Large-artery atherosclerosis – a clot from the arteries
 2. Cardioembolism – a clot from the heart
 3. Small-vessel occlusion – a narrowing and weakening of blood vessels
 4. Stroke of other determined etiologies
 5. Stroke of undetermined etiology.
- It is not unusual for strokes to be of an undetermined cause.
 - Strokes of undetermined etiology and small-vessel occlusion are usually associated with better life expectancy than strokes of other subtypes.¹
 - Strokes due to cardioembolism – a clot from the heart – are usually the most devastating type of ischaemic stroke.¹

There are two types of haemorrhagic stroke:

1. Intracerebral haemorrhage (ICH) – bleeding within the brain
 2. Subarachnoid haemorrhage (SAH) – bleeding on the surface of the brain.
- Haemorrhagic strokes are generally more severe and are associated with a considerably higher risk of mortality within three months and beyond, when compared to ischaemic strokes.^{1 4}
 - 10–15% of people affected with SAH die before reaching hospital and 25% die within 24 hours.²
 - Without treatment 25–30% will re-bleed within the first four weeks – 70% of these people will die as a result.⁵

4. What is a transient ischaemic attack (TIA)?

- A transient ischaemic attack, or TIA (often referred to as “mini-stroke” or “warning stroke”) is where **stroke symptoms resolve within 24 hours**.
- A TIA should be treated just as seriously as a full stroke.
- 46,000 people in the UK have a first incidence of TIA every year.⁶
- Approximately 15% of ischaemic strokes are preceded by a TIA.⁷
- The greatest risk of stroke is within the days immediately after a TIA.



ABCD2 score is used to predict the short-term risk of a stroke after a TIA:

- **A** = Age
- **B** = Blood pressure
- **C** = Clinical symptoms
- **D** = Duration of symptoms
- **D** = Diabetes.

ABCD₂ after a TIA

Age 60> Yes +1

BP > 140/90 mmHg at initial evaluation Yes +1

Clinical features of the TIA:

Unilateral weakness +2

Speech disturbance without weakness +1

Duration of symptoms?

10-59 mins +1

Over 60 mins +2

Diabetes mellitus in patient's history? Yes +1

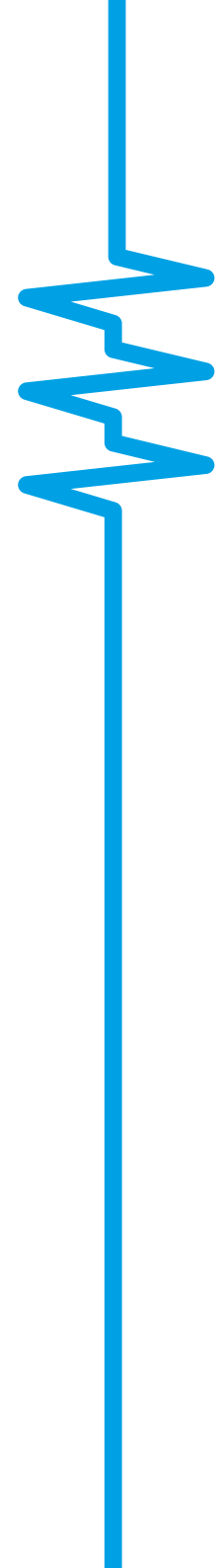
Any score **four and above** is **HIGH RISK** and should be seen at a specialist TIA clinic within **24 hours**

Any score **three and under** is **LOW RISK** and should be seen at a specialist TIA clinic within **7 days**

▼

Score Points

- 1 in 12 people will have a stroke within a week of having a TIA.
- Approximately 10,000 recurrent strokes can be prevented every year in the UK if TIA and minor strokes are treated in time.¹⁰

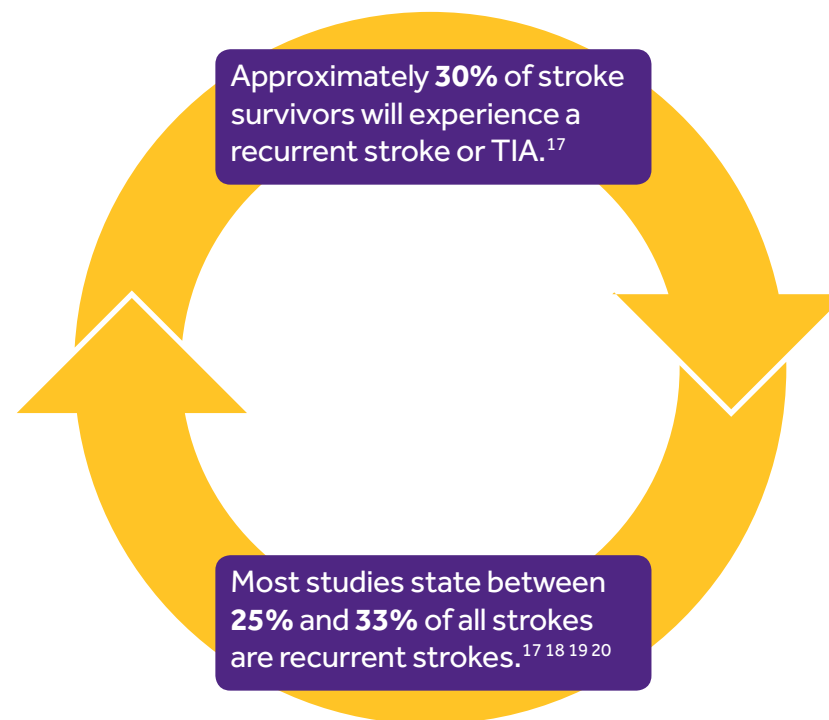


Stroke epidemiology

5. How often does stroke strike?

- Stroke occurs approximately **152,000** times a year in the UK.¹¹
- That is one stroke every **3 minutes and 27 seconds** in the UK.
- Incidence rates in the UK vary depending on the country or region being researched. It can range from 115 per 100,000 population to 150 per 100,000 population depending on the study.^{12 13}
- Stroke incidence rates fell 19% from 1990 to 2010 in the UK.¹²
- Men are at a 25% higher risk of having a stroke and at a younger age compared to women.^{11 14}
- However, as women live longer there are more total incidences of stroke in women.
- The greatest risk of recurrent stroke is in the first 30 days.
- Every two seconds someone in the world will have a stroke for the first time.
- There were almost 17 million incidences of first-time stroke worldwide in 2010.¹²

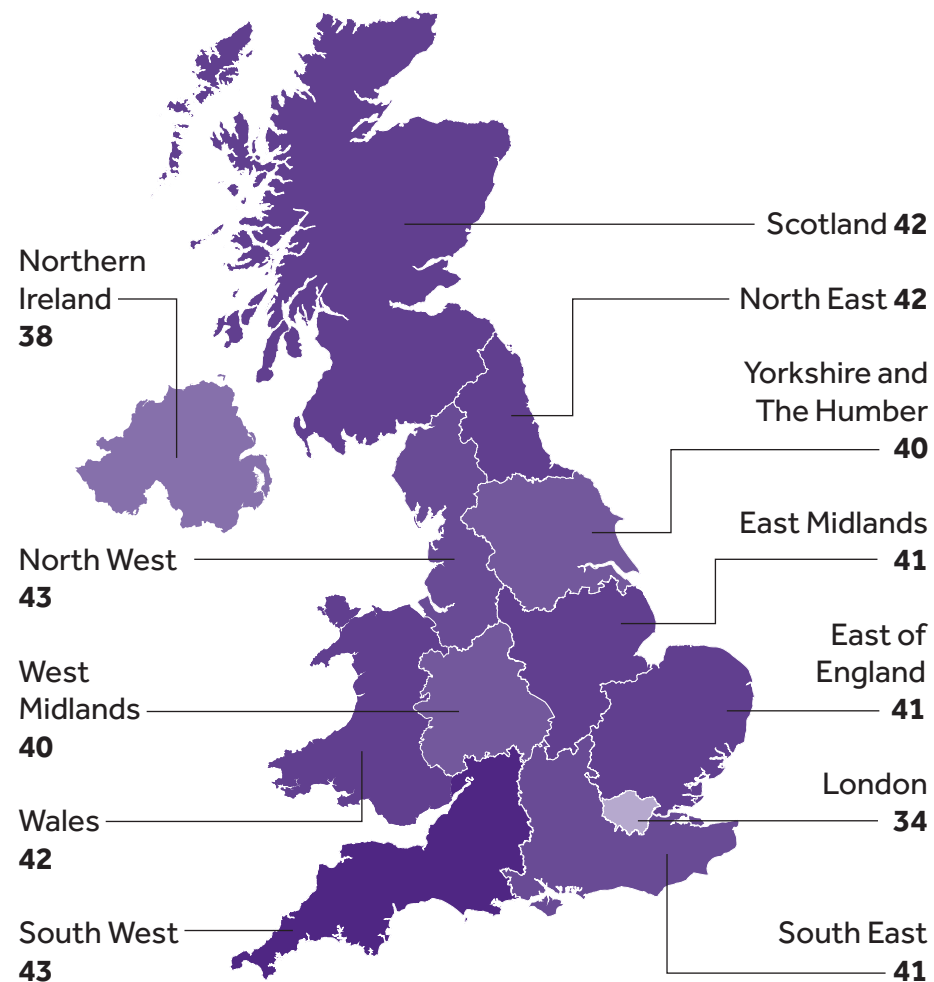
| Country | Strokes per year in men | Strokes per year in women | Strokes per year overall |
|--|-------------------------|---------------------------|--------------------------|
| England (2007) ¹¹ | 57,488 | 68,457 | 125,945 |
| Scotland (2009) ¹¹ | 6,532 | 7,830 | 14,362 |
| Wales (14/15) ¹⁵ | 3,602 | 3,820 | 7,422 |
| Northern Ireland (13/14) ¹⁶ | 2,209 | 2,207 | 4,416 |
| United Kingdom | 69,831 | 82,314 | 152,145 |



6. Age

- Age is the single most important risk factor for stroke.
- The risk of having a stroke doubles every decade after the age of 55.^{21,22}
- By the age of 75, 1 in 5 women and 1 in 6 men will have a stroke.²³
- 1 in 4 (26%) of strokes in the UK occur in people under 65 years old.²⁴
- The number of people having strokes aged 20 to 64 increased by 25% from 1990 to 2010 worldwide.²⁵
- Around 1 in 150 strokes in the UK occur in people under 20 years old.²⁴
- Stroke occurs in up to 13 per 100,000 children in the UK. It is thought there are around 400 childhood strokes a year in the UK.²⁶
- 1 in 4,000 babies have a stroke at birth worldwide - this translate to around 200 strokes in babies a year in the UK alone.²⁷

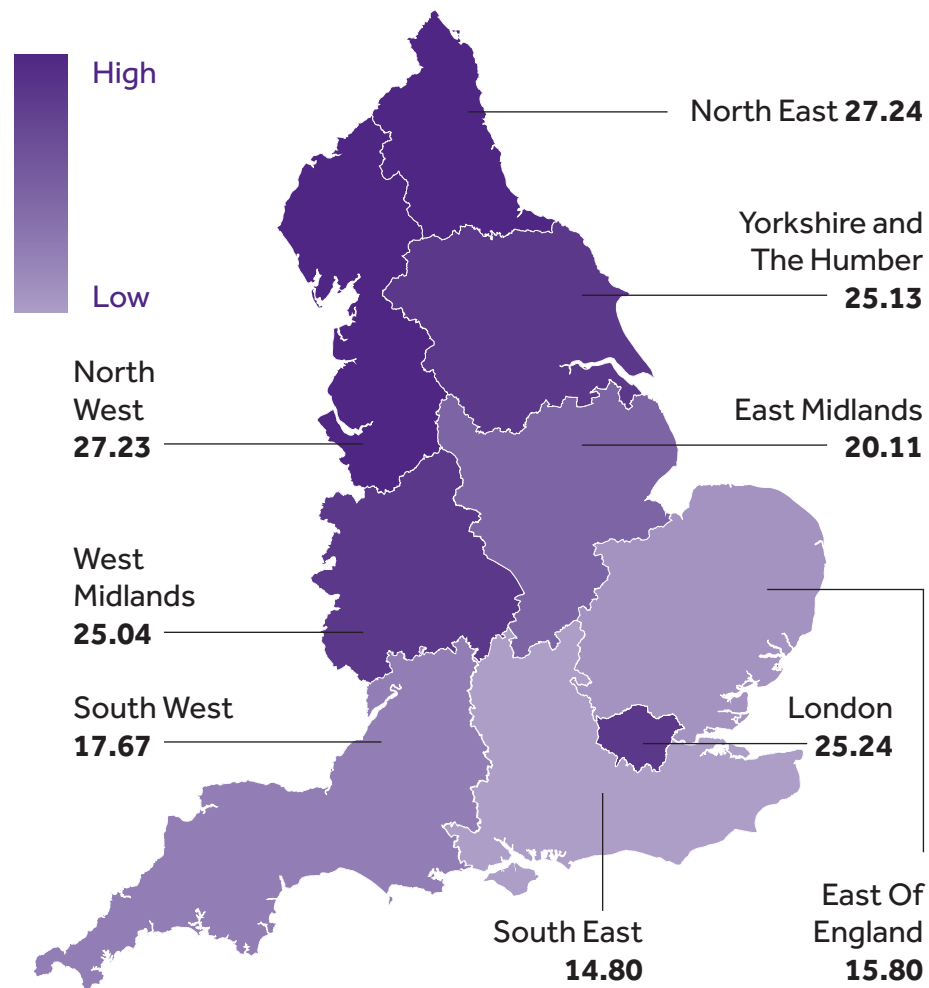
Average age of people in the UK²⁸



7. Social deprivation

- People from the most economically deprived areas of the UK are around twice as likely to have a stroke than those from the least deprived areas.²⁹
- People from the most economically deprived areas of the UK are also three times more likely to die from a stroke than those from the least deprived.³⁰
- People from 'low and middle income' countries on average have strokes up to five years younger than people from higher income countries.³¹
- Studies show that London and northern regions in England demonstrate higher indications of social deprivation.³²

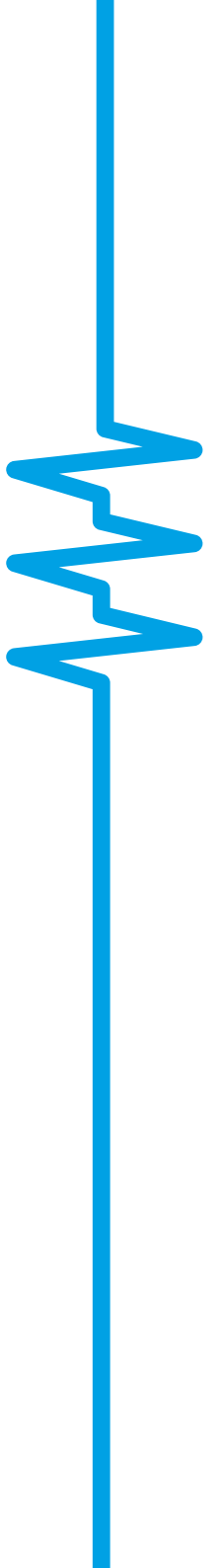
Social deprivation in England (IMD score)



8. Ethnicity

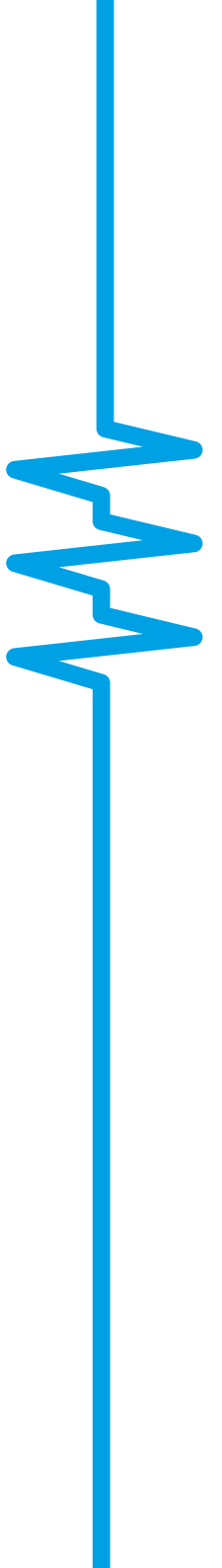
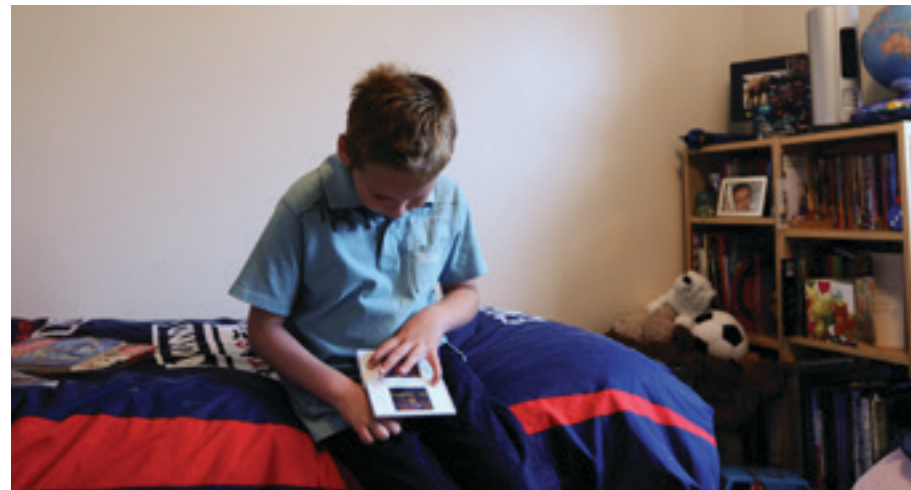
Evidence shows us that people of black and South Asian origin are at a higher risk of stroke compared to white people

- Black people are twice as likely to have a stroke and at a younger age than white people.³³
- This is partly due to a higher prevalence of high blood pressure, diabetes and sickle cell disease.
- Black people are twice as likely to have high blood pressure than white people.³³
- Black people, particularly black Caribbean, are more than twice as likely to have diabetes than white people.^{33 34 35}
- 70% of sickle cell carriers are of African origin.³⁶
- White people are more likely to have an irregular heartbeat, smoke and consume excess alcohol.^{33 35}
- South Asian people have strokes at a significantly younger age than white people.³⁷
- South Asian people are more likely to have high blood pressure, high cholesterol and diabetes than white people.³⁷
- South Asian men, particularly Indian men, are more than twice as likely to have diabetes than the UK general population.³⁵
- South Asian women, particularly Pakistani women, are also more than twice as likely to have diabetes than the UK population.³⁵
- Bangladeshi and Pakistani men are more likely to smoke than the rest of the UK population.³⁵



9. Childhood stroke

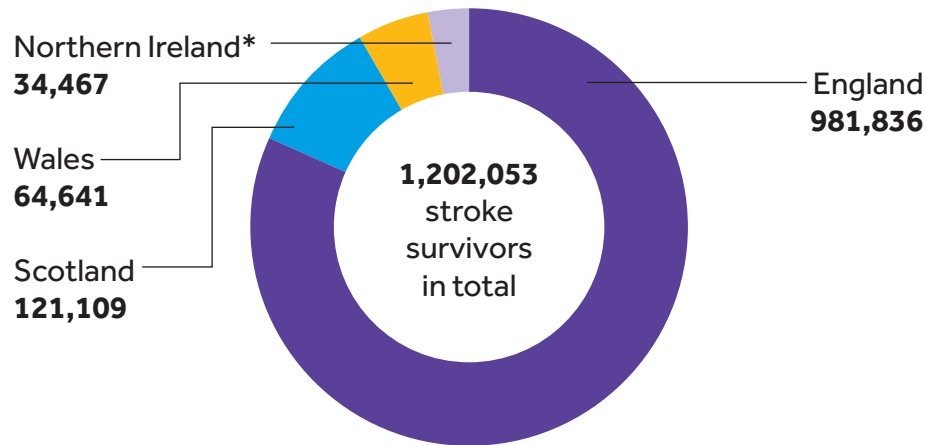
- Stroke occurs in up to 13 per 100,000 children in the UK. It is thought there are around 400 childhood strokes a year in the UK.³⁸
- 1 in 4,000 babies have a stroke at birth worldwide - this translates to around 200 strokes in babies a year in the UK alone.³⁹
- Haemorrhagic strokes account for about 55% of childhood strokes. The other 45% are ischaemic strokes.^{40 41 42}
- Recent illness, such as cold and flu, are associated with a six-fold rise in stroke risk.⁴³
- Children with some, few or no routine vaccinations have a seven-fold increased risk of stroke compared to children who received all or most vaccinations.⁴³
- Heart disorders cause up to 25% of ischaemic strokes in children.⁴³
- Up to 40% of children who have a stroke will die from it.⁴²
- Between 30-50% of these are caused by arteriovenous malformations (AVMs). An AVM is a rare malformation of blood vessels where arteries become tangled with veins, often appearing as a tangle of abnormal vessels.⁴²
- Cavernous malformations (small cluster of abnormal, enlarged blood vessels, often resembling a raspberry) are thought to account for 20-25% of haemorrhagic stroke in children.⁴²
- Of children surviving stroke, about 60% will have permanent neurological deficits, most commonly hemiparesis or hemiplegia.⁴²



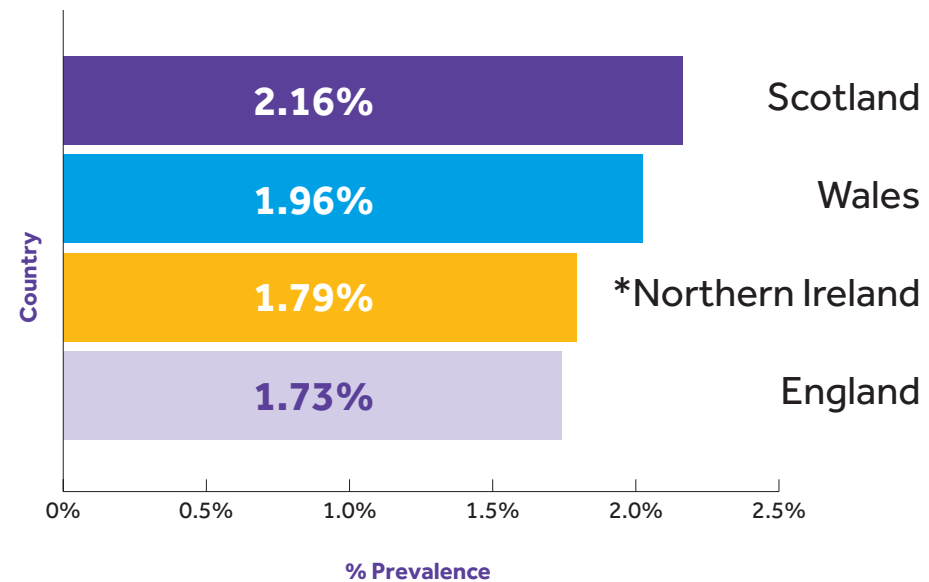
10. Stroke survivors

- There are over **1.2 million stroke survivors** living in the UK.^{44 45}
46 47
- These data derive from the Quality and Outcomes Framework (QOF) – the national database used by GPs to register the medical conditions of their patients.
- 1 in 53 people in the UK is a stroke survivor.
- Despite having the highest total of stroke survivors, England has the lowest percentage of stroke survivors per head of population.

Number of stroke survivors (2014/15)



% of population who are stroke survivors



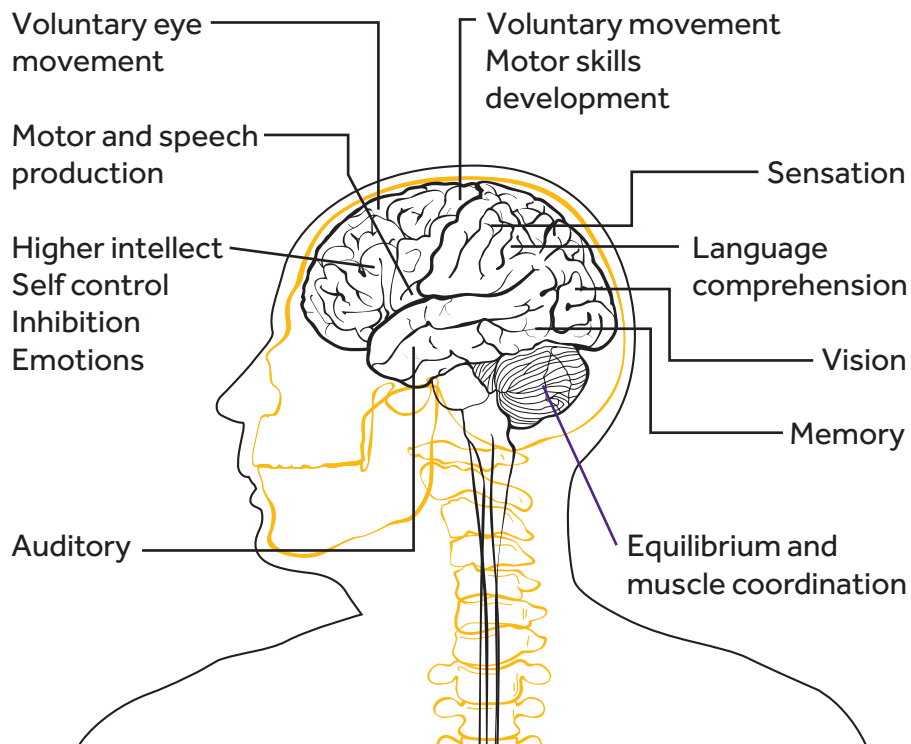
* Northern Ireland 2013/14 data



11. Effects of stroke

- Stroke causes a greater range of disabilities than any other condition.⁴⁸
- Stroke can affect walking, talking, speech, balance, co-ordination, vision, spatial awareness, swallowing, bladder control and bowel control.

Functions of the brain



| Difficulty | % of people affected |
|--|----------------------|
| Upper limb/arm weakness ⁴⁹ | 77% |
| Lower limb/leg weakness ⁴⁹ | 72% |
| Visual problems ⁵⁰ | 60% |
| Facial weakness ⁵¹ | 54% |
| Slurred speech ⁵¹ | 50% |
| Bladder control ⁵² | 50% |
| Swallowing ⁴⁹ | 45% |
| Aphasia ^{53 54 55} | 33% |
| Depression ⁵⁶ | 33% |
| Bowel control ⁵² | 33% |
| Dementia ⁵⁷ | 30% |
| Inattention/neglect ⁵¹ | 28% |
| Emotionalism within six-months ⁵⁸ | 20% |
| Emotionalism post-six months ⁵⁸ | 10% |



12. Feeling overwhelmed

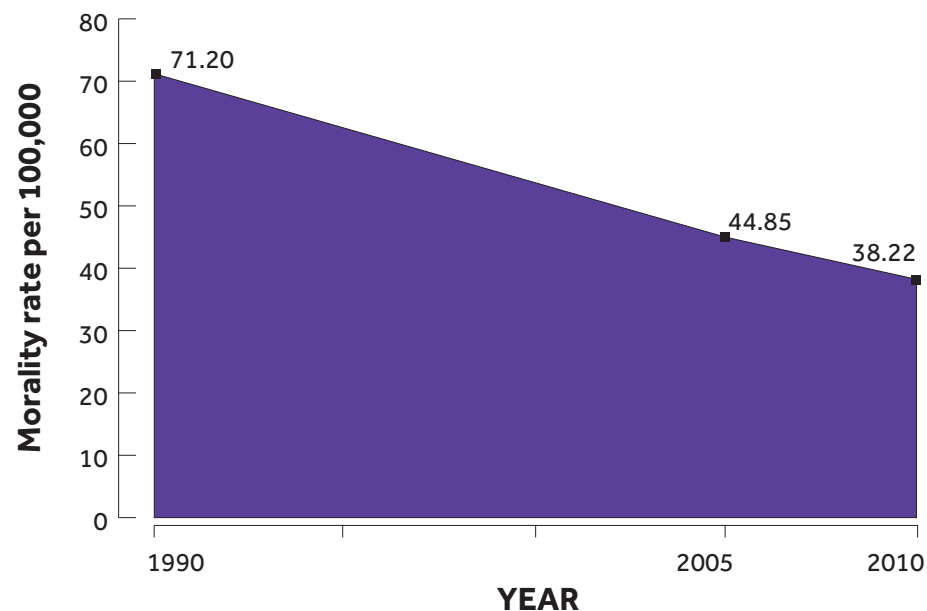
- Fatigue is a very common side effect after a stroke. 1 in 4 (24%) experience extreme fatigue post-stroke.⁵⁹
- An additional 1 in 3 (33%) experience moderate fatigue post-stroke.⁵⁹
- The effects of stroke-related fatigue can continue years after a stroke.⁶⁰
- A third (33%) of stroke survivors experience post-stroke depression.⁶¹
- Approximately 20% of stroke survivors experience emotionalism in the first six months. This decreases to 10% in 12 months.⁶²
- 73% of stroke survivors lack confidence.⁶³
- 63% live in fear of another stroke.⁶³
- 44% find it difficult to talk about their stroke and its effect on their lives.⁶³
- 56% feel friends and family treat them differently.⁶³
- 55% are unable to care for family in the same way as before.⁶³
- 44% had broken up with their partner or considered doing so.⁶³



13. Mortality

- Stroke will take a life every 13 minutes in the UK.
- 1 in 8 strokes are fatal within the first 30 days.^{64 65 66}
- 1 in 4 strokes are fatal within the first year.^{64 65 66}
- Stroke is the fourth single leading cause of mortality in the UK.^{58 59 60}
- 1 in 14 (7%) of all deaths in the UK is caused by stroke.^{64 65 66}
- Stroke causes approximately 6% of all deaths in men in the UK.^{64 65 66}
- Stroke causes approximately 8% of all deaths in women in the UK.^{64 65 66}
- The latest figures show that 39,284 people died of stroke; 16,224 men and 23,060 women (England, Scotland, Wales and Northern Ireland 2014).^{64 65 66}
- Stroke mortality rates in the UK decreased by 46% from 1990 to 2010.⁶⁷

Stroke mortality trend in the UK

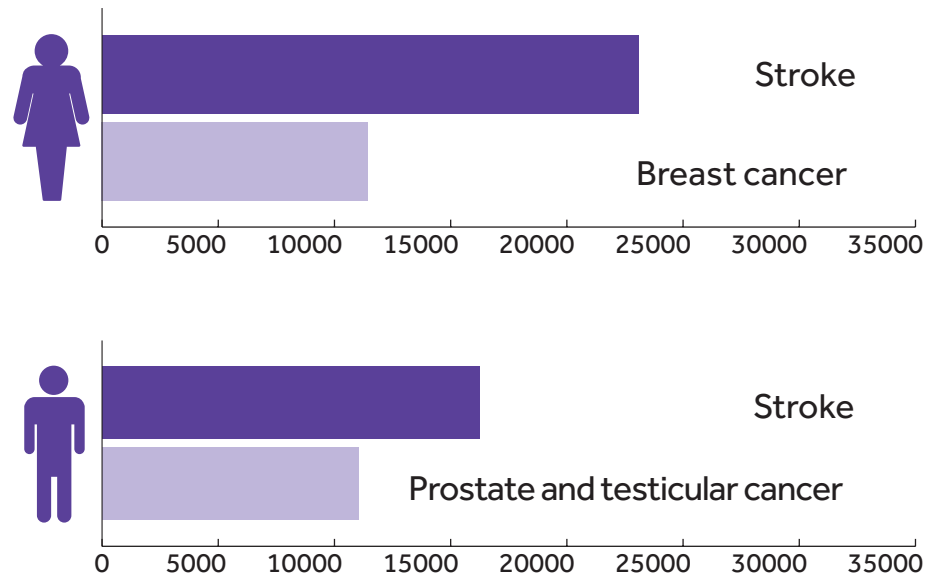
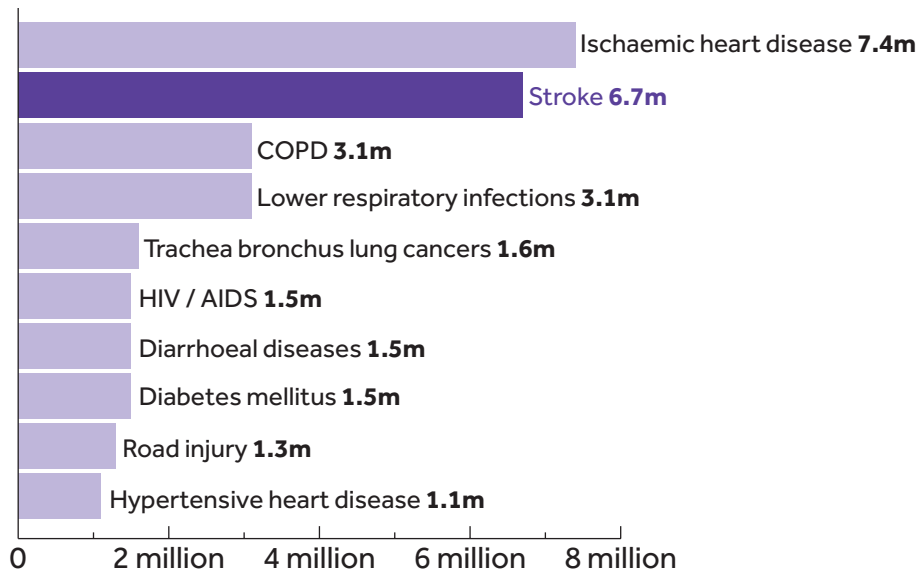


| Country | Male | Female | Total |
|-------------------|---------------|---------------|---------------|
| England and Wales | 14,194 | 19,963 | 34,157 |
| Scotland | 1,605 | 2,518 | 4,123 |
| Northern Ireland | 423 | 579 | 1,002 |
| Total | 16,222 | 23,060 | 39,282 |

13. Mortality

- Stroke is the second single most common cause of death in the world causing 6.7 million deaths each year.⁶⁸
- The burden of disease (disability, illness and premature deaths) caused by stroke is set to double worldwide by 2030.⁶⁹
- Almost 1 in 8 (11.9%) deaths worldwide is caused by stroke.⁶⁸
- Stroke takes a life every five seconds worldwide.⁶⁸
- Stroke causes twice as many deaths a year in women than breast cancer.^{64 65 66}
- Stroke causes more deaths a year in men than prostate and testicular cancer combined.^{64 65 66}

The 10 leading causes of death in the world 2012



Stroke risk factors and prevention

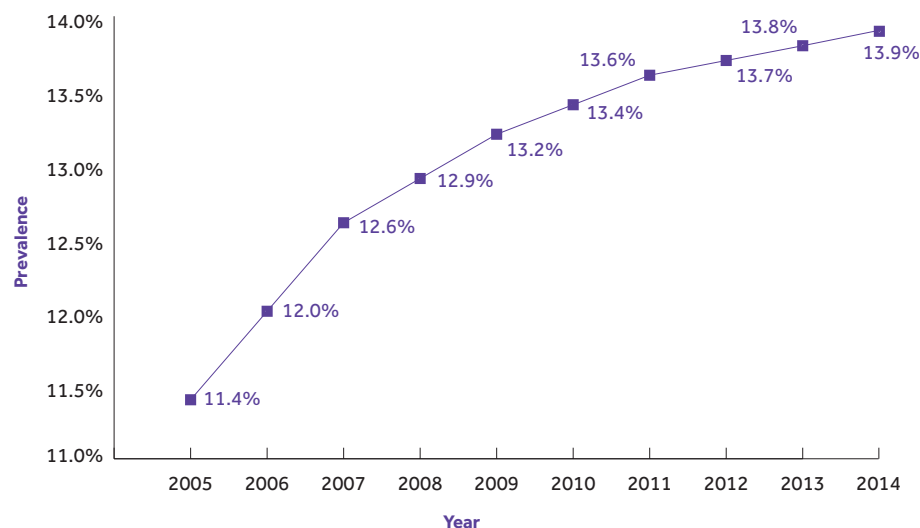
14. High blood pressure

- There are over 9.2 million people in the UK registered as hypertensive (high blood pressure).^{70 71 72 73}
- It is estimated there could be up to another 6.8 million people in the UK with undiagnosed high blood pressure.⁷⁴
- High blood pressure is a contributing factor to 54% of strokes in England, Wales and Northern Ireland.⁷⁵
- 120/80 is generally accepted as normal and 140/90 as high. However, blood pressure naturally increases with age. Your GP can check if your blood pressure is within normal range.
- Wales has the highest percentage of people with high blood pressure per population, and Northern Ireland has the lowest.^{70 71 72 73}

| Country (2014/15) | % High blood pressure |
|-------------------|-----------------------|
| UK | 13.9% |
| Wales | 15.6% |
| Scotland | 14.0% |
| England | 13.8% |
| Northern Ireland | 13.1% |

- The number of people registered as hypertensive has consistently increased since 2005.

Prevalence of high blood pressure in the UK



15. Diabetes

- There are over 3.4 million people registered as diabetic in the UK – about 5% of the population.^{70 71 72 73}
- It is estimated there are another 850,000 people that have undiagnosed diabetes.⁷⁶
- Diabetes (type 1 and type 2) almost doubles your risk of stroke and is a contributing factor to 20% of strokes in England, Wales and Northern Ireland.^{77 78}
- Wales has the highest percentage of people with diabetes per population, and Northern Ireland has the lowest.
- Type 1 diabetes is when the body does not produce insulin.
- Type 2 diabetes is when the body does not produce enough insulin or the cells do not respond currently with insulin – this is known as insulin resistance. 90% of all diabetics have type 2.⁷⁹
- Persistently elevated glucose levels contribute to the build up of 'plaque' in blood vessels. This plaque is made up of bad cholesterol, protein and cellular waste.
- This plaque sticks to the blood vessels walls and impairs blood flow, which can lead to stroke.

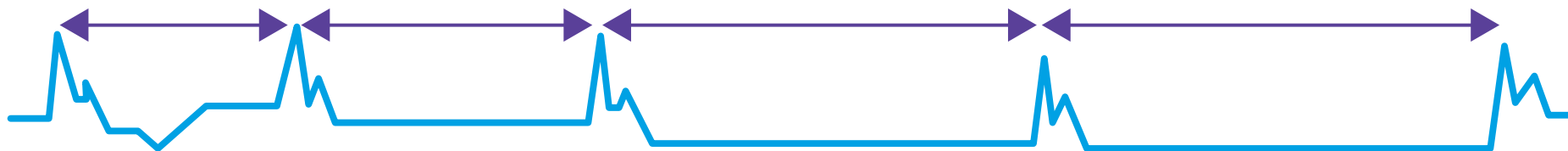
| Country (2014/15) | % diabetic |
|-------------------|-------------|
| UK | 5.1% |
| Wales | 5.7% |
| England | 5.1% |
| Scotland | 4.9% |
| Northern Ireland | 4.4% |



16. Atrial fibrillation

- Atrial fibrillation (AF) is when the heartbeat is irregularly irregular, ie. your heart beats to no discernable pattern or rhythm. This can lead to small pools of blood left in the chamber of the heart that can develop into a clot over time.
- There are over one million people with AF in the UK.^{70 71 72 73}
- The risk of stroke increases five-fold for people with AF.⁸⁰
- AF is a contributing factor to 20% of strokes in England, Wales and Northern Ireland.⁸¹
- Men have a 1.5 times greater risk of developing AF than women.⁸²
- However, AF-related strokes in women are more devastating (ie. greater mortality) than AF-related strokes in men – the reason for this is not currently known.⁸³
- The incidence of AF increases with age – you are approximately twice as likely to have AF for every decade after 55.⁸²
- Almost all ischaemic stroke survivors will be put on 'anti-platelet' (blood-thinning) medication such as aspirin or clopidogrel.
- Anticoagulants (such as warfarin) are a much stronger version of blood-thinners, which can be prescribed to people with AF.
- However, anticoagulants continue to be under-prescribed, particularly among people over 80s.⁸⁴
- In England, almost a third (31%) of eligible patients do not receive anticoagulation.⁸⁵
- It is estimated that if AF was adequately treated, around 7,000 strokes would be prevented and 2,100 lives saved every year (England only).⁸⁶
- Only 4 in 10 (41%) stroke patients with known atrial fibrillation are on anticoagulant treatment on admission to hospital in England, Wales and Northern Ireland.
- However, 8 in 10 (82%) stroke patients with atrial fibrillation are discharged from hospital with a plan to anticoagulate in England, Wales and Northern Ireland.⁸¹

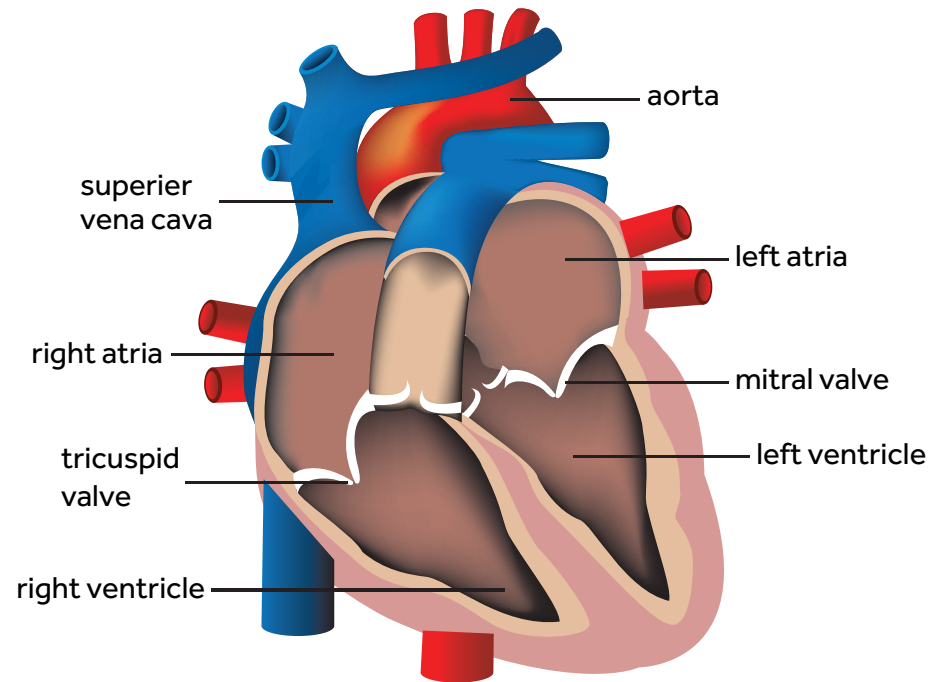
Example of AF heartbeat



17. Patent foramen ovale

- A patent foramen ovale (or PFO) is also known as a 'hole in the heart'.
- The foramen ovale is a small hole located between the left and right atria (upper chambers) in the heart. When in the womb, a baby does not use its own lungs for oxygen-rich blood, rather it relies on its mother to provide this. The foramen ovale lets blood travel from the veins from the right side of the baby's heart to the left side and allows blood to go around the lungs.
- Normally the foramen ovale closes at birth, however it fails to close in about 1 in 4 people.⁸⁷
- The open flap can allow a clot to travel from any part of the body, through the heart, to the brain.
- It is unclear whether or not a PFO increases the risk of stroke, however some studies have shown that someone with a PFO is at no higher risk of stroke than someone who does not have a PFO.⁹¹

Parts of the human heart



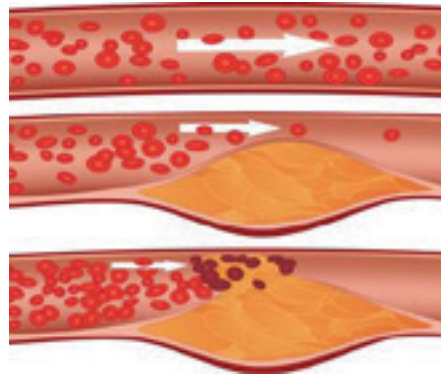
18. Other risk factors

High cholesterol

- Cholesterol is a fatty substance in the blood.
- There is 'good' and 'bad' cholesterol. Too much 'bad' cholesterol causes the fatty substance to build up on the artery walls.
- The use of statins in individuals with a high risk of cardiovascular events reduces the risk of stroke by 25%.⁸⁸
- Reducing cholesterol level by 1mmol/L reduces the risk of stroke by more than 21%.⁸⁹

The most common causes of high cholesterol are:

- eating a diet that is high in saturated fat
- smoking
- lack of exercise
- high alcohol intake
- liver and/or kidney disease
- genetics.



Sickle cell disease

- Sickle cell disease is an abnormality of red blood cells which causes the usually round-shaped cells to be crescent-shaped.
- Around 10,000 people in the UK have sickle cell disease and it predominantly affects people of African, African-Caribbean, Asian and Mediterranean heritage.^{90,91}
- 24% of people with sickle cell disease will have a stroke by the age of 45.⁹²
- Stroke occurs in 7–13% of children with sickle cell disease.⁹³
- Children with sickle cell disease have a 333 times greater risk of stroke than children without sickle cell disease.⁹⁴



19. Smoking, alcohol and drug use

- 31% of adults in the UK drank more than recommended (4 units for men, 3 units for women) at least one day in the last week.⁹⁵
- Regular consumption of large amounts of alcohol greatly increases your risk of ischaemic stroke.⁹⁶
- 1 in 5 (20%) of the UK population are active smokers.⁹⁷
- Smoking single-handedly doubles your risk of death from stroke.⁹⁸
- Shisha (hookah) smoking carries the same risks as cigarette smoking – an hour-long shisha session is the equivalent of smoking 100–200 cigarettes.⁹⁹
- A 2012 study of 'stroke in younger people' discovered half (52%) of those having strokes under the age of 45 were active smokers (66% current or previous smokers).¹⁰⁰
- The study also found that 1 in 5 (19.8%) had used illegal drugs.¹⁰⁰
- 62% of young adults at the time of their stroke actively engaged in substance use (smoking, alcohol abuse or illegal drug use).¹⁰⁰
- 12.8% of young adults had consumed drugs and/or alcohol within 24 hours of their stroke.¹⁰⁰
- Binge-drinking increases your blood pressure and can have lasting effects for several days.
- Cocaine and amphetamine use poses a particularly high risk of stroke due to the dramatic and sudden spike in blood pressure it causes.¹⁰¹
- Cocaine increases your risk of stroke by 700% in the 24 hours following use.¹⁰²



20. Prevention

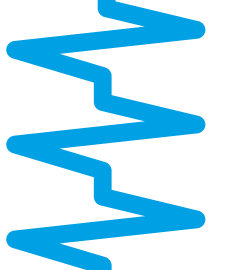
- Up to 80% of all strokes could be prevented.^{103 104}
- Moderate exercise can reduce your risk of stroke by up to 27%.¹⁰⁵
- Physical inactivity and a sedentary lifestyle increases your risk of an ischaemic stroke by 50%.¹⁰⁶
- Being overweight increases your risk of ischaemic stroke by 22% and being obese by 64%.¹⁰⁷
- Studies have shown regular exercise to be as important to stroke prevention as medication.¹⁰⁸
- The UK consumes more fat and less fruit and vegetables per person than the European average.¹⁰⁹
- Only 15% of UK adults meet the '5-a-day' target.¹¹⁰
- Studies have found a clear 'dose-related' association between fruit and vegetable consumption and stroke risk, which means...
- the **more** you eat, the **lower** your risk.¹¹¹



Stroke treatment

21. Stroke pathway

- 46% of stroke patients in England, Wales and Northern Ireland have a brain scan within one hour of admission, and 90% within 12 hours of admission.¹¹²
- In Scotland 90% of stroke patients have a brain scan within 24 hours of admission.¹¹³
- 1 in 5 (22%) stroke patients in England, Wales and Northern Ireland are being admitted to general medicine and diagnostic wards instead of specialist stroke wards.¹¹²
- 1 in 5 acute hospital beds and 1 in 4 long-term hospital beds are occupied by stroke patients.¹¹⁴
- Stroke patients who are cared for on stroke wards are more likely to be alive, independent and living at home after one year than if they are cared for on other wards.¹¹⁵
- In the UK, incidence rates have decreased by 19% from 1990 to 2010.¹¹⁷
- Stroke mortality rates have decreased by 46% from 1990 to 2010 in the UK.¹¹⁷
- Lower mortality rates in the UK means there are more people surviving and living with stroke now than ever before.
- Total stroke prevalence has increased by 28% from 2005 to 2015 in the UK.^{118 119 120 121}
- Disability-adjusted living years (DALYs) lost because of stroke have decreased by 49% from 1990 to 2010 in the UK.¹¹⁷



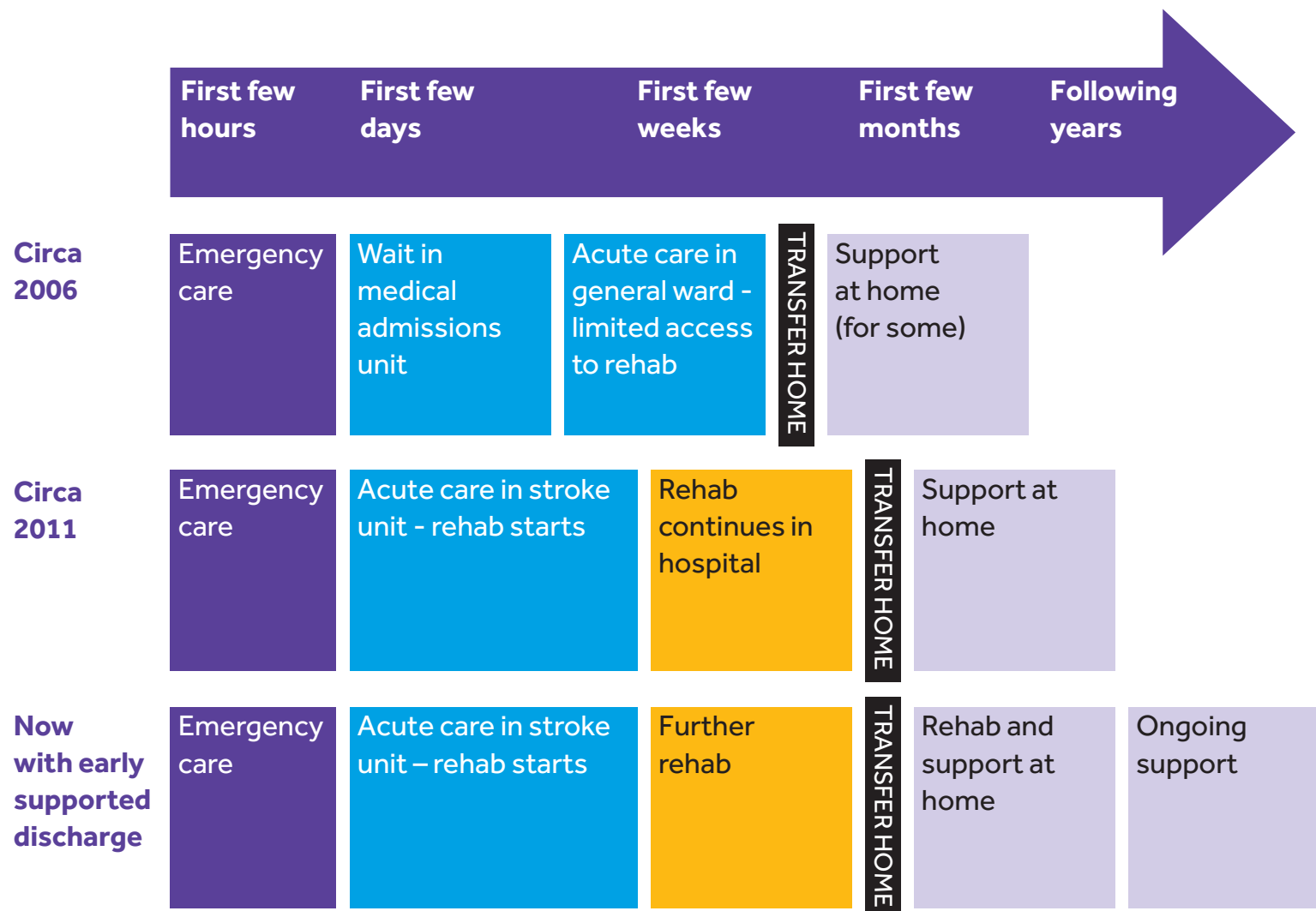
22. Thrombolysis

- The use of thrombolysis (also known as alteplase and rt-PA) is licensed up to 4.5 hours in the UK.^{122 123}
- 1.9 million neurons are lost every minute a stroke is untreated.¹²⁴
- Around 6 in 10 stroke emergency attendances to A&E in England, Wales and Northern Ireland arrive 'out of time' or had a stroke during sleep so the onset time cannot be calculated.¹²⁵
- Currently, only around 15% of stroke emergencies in England, Wales and Northern Ireland are eligible for thrombolysis treatment on admission to hospital.¹²⁵
- The average door-to-needle time in England, Wales and Northern Ireland is 57 minutes (April – June 2014).¹²⁵
- Patients treated with thrombolysis quicker have better outcomes.¹²⁶
- For every 1,000 patients treated with thrombolysis within three hours, about 100 more will be alive and live independently than 1,000 patients not treated with thrombolysis.¹²⁶
- For every 1,000 patients treated with thrombolysis within six hours, about 150 more will be alive and live independently than 1,000 patients not treated with thrombolysis.¹²⁶
- Use of thrombolysis in England, Wales and Northern Ireland increased from 1.8% in 2008 to 12.2% in 2014.¹²⁵
- Use of thrombolysis in Scotland increased from 3% to 9% from 2008 to 2013.¹²⁷



23. What happens when you go home?

What happens when you go home?



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24. Disability

- Stroke is the largest cause of complex disability - over half of all stroke survivors are left with a disability.^{128 129}
- Stroke has a greater disability impact on an individual than any other chronic disease.¹²⁸
- Over a third (41%) of stroke survivors in England, Wales and Northern Ireland are discharged from hospital requiring help with activities of daily living.¹²⁹
- The greatest phase of recovery is usually within the first days and weeks after stroke - however some improvements can still be made months and years after stroke.
- Neuroplasticity, the 're-wiring' or 're-routing' of the brain, has shown it is still possible to make improvements years after stroke.¹³⁰
- 1 in 4 stroke survivors live alone.¹³¹
- 85% of stroke survivors thought those they came into contact with did not understand stroke.¹³¹
- 43% of stroke survivors wanted more therapy support once discharged home. Physiotherapy was cited as the biggest priority with 29% wanting more services.¹³¹
- 39% of stroke survivors were not offered an assessment - a gateway into community services.¹³¹
- 70% of those not offered an assessment also did not receive a care plan.¹³¹
- 18% have had access to care services reduced or withdrawn, despite their needs increasing or remaining the same.¹³¹
- 48% of stroke survivors and their carers reported problems caused by either poor or non-existent co-working between health and social care provider.¹³¹



25. Rehabilitation

- Early supported discharge (ESD) is designed for stroke survivors with mild to moderate disability who can be discharged from hospital sooner to receive the necessary therapy at home.
- The length of ESD services can range from weeks to months, but typically lasts about six weeks.¹³²
- 66% of hospitals have access to ESD services.¹³³
- In 2015, around 32% of stroke patients in England, Wales and Northern Ireland are discharged with ESD services.¹³⁴
- It is estimated that hospital length of stay will decrease by an average of more than five days if all stroke patients have access to ESD.¹³⁵



26. The cost of stroke

The economic costs of stroke in the UK from a societal perspective totals around £9 billion a year.¹³⁶

- **Health and social care costs** are approximately £4.38 billion a year (49%).
- **Informal care costs** are estimated to be £2.42 billion a year (27%).
- **Productivity losses** (i.e. income lost) due to care, disability and death are estimated to be approximately £1.33 billion (15%).
- **Benefit payments** total approximately £841m (9%).



The average cost of care (acute and rehabilitation) per stroke patient is currently **£23,315**.¹³⁷

Full implementation of stroke units and early supported discharge services nationwide increase average costs to **£26,701**, however **7% more stroke survivors will survive 10 years post-stroke**.¹³⁷

The cost of one day on a hyper-acute stroke unit is **£583**.¹³⁷

This is **twice** the cost of a month of early supported discharge service (**£213-£535**).¹³⁷

The cost of a single treatment of thrombolysis is approximately **£480**.¹³⁸

The cost of a **weekly** stay in a residential care home is **£523**.¹³⁹

27. Short-changed by stroke

- 1 in 5 of dependent stroke survivors in the UK are cared for by family and friends.¹⁴⁰
- A survey conducted by the Stroke Association in 2013 discovered two thirds of carers experienced difficulties in their relationship with the stroke survivor. Of these 1 in 10 had broken up with their partner, or considered doing so.¹⁴¹
- 64% of carers said the emotional impact of stroke is the hardest thing to cope with.¹⁴¹
- Up to 72% feel ill-prepared to take on the role as a carer.¹⁴²
- Up to 69% of carers experienced stress.¹⁴¹
- 79% experienced anxiety.¹⁴¹
- 84% experienced frustration.¹⁴¹
- Over 60% experienced anger.¹⁴¹

In 2012, the Stroke Association produced a report looking into the financial impact of stroke survivors and their families.

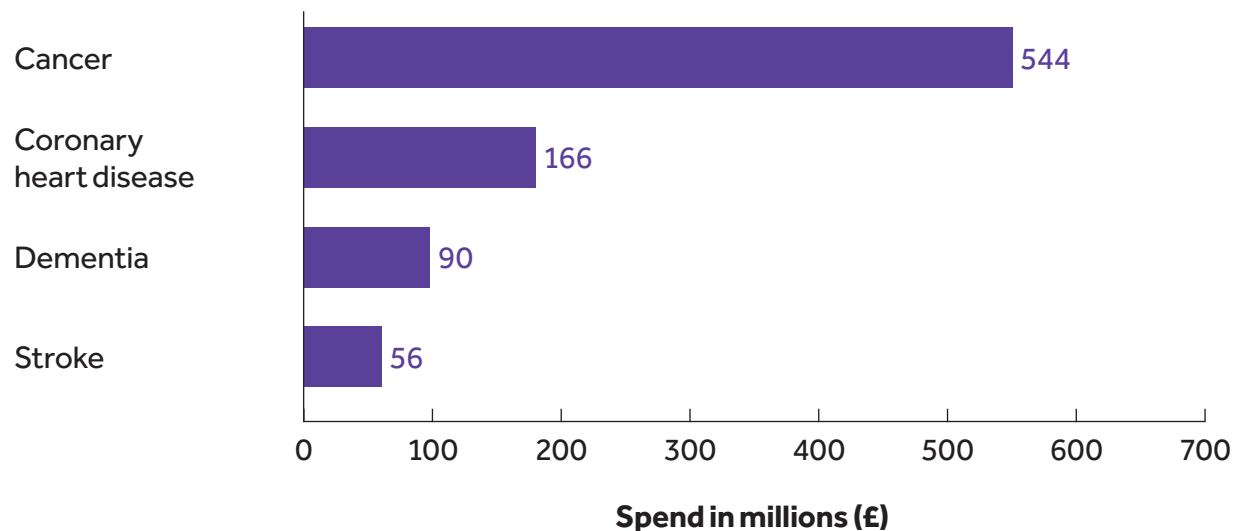
- 69% of 25-59 year olds were unable to return to work.¹⁴³
- 65% of 25-59 year olds reported a decrease in household income.¹⁴³
- Household expenses increased for 58%, including heating bills, transport costs, contributions to care services and household adaptation expenses.¹⁴³
- 63% were living in fuel poverty.¹⁴³
- 40% had cut back on food.¹⁴³



28. Research spend in the UK

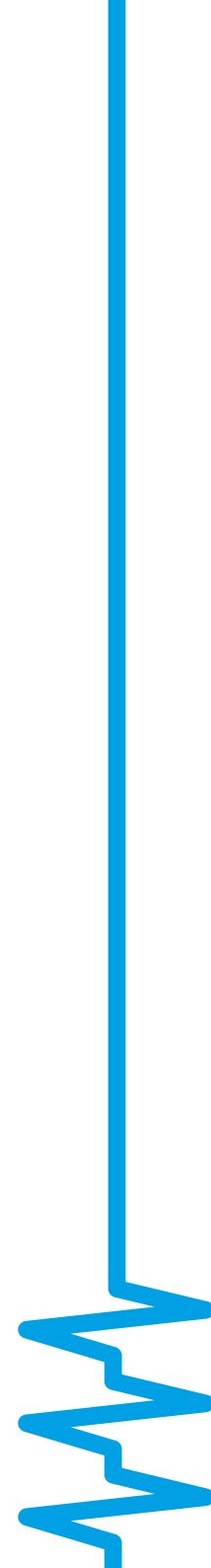
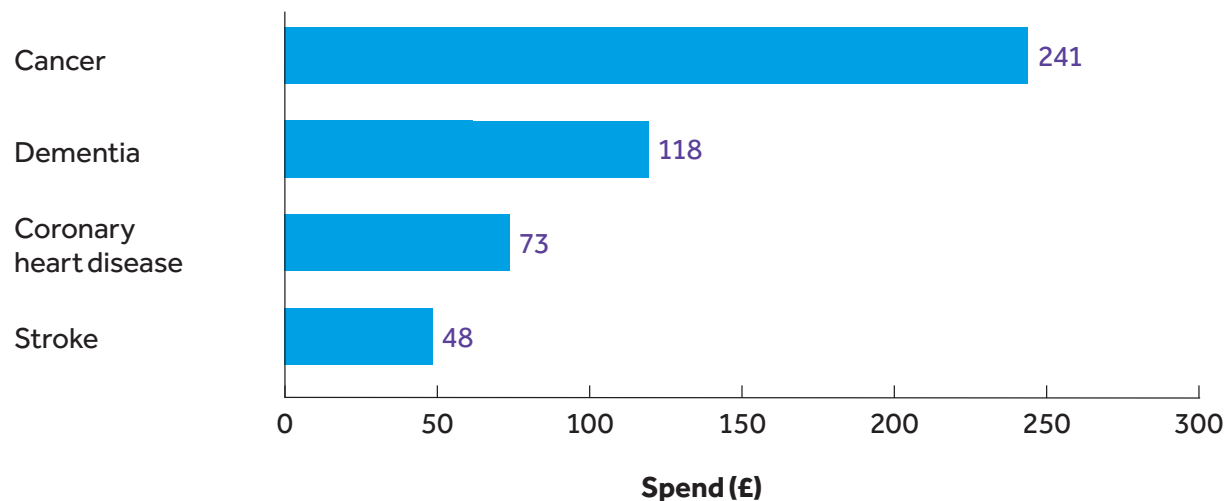
Total spend on research by charities and governmental organisations in the UK (in millions £)

- In 2012, £56 million was spent on stroke research in the UK. However it remains dwarfed by the comparable spend on cancer research (£544 million) and still receives less funding than coronary heart disease research (£166 million) and dementia research (£90 million).¹⁴⁴



Total spend on research per person with the disease (£)

- The total level of research funding per person with stroke was £48, which is about one fifth of the comparable spend on cancer (£241) and less than half the comparable spend on dementia (£118).¹⁴⁴



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