Stroke is a sudden and devastating illness - however many people are unaware of its widespread impact. This resource sheet outlines some key statistics relating to stroke including incidence, mortality, morbidity, risk factors and stroke care.

**Key messages about stroke**

- There are approximately 152,000 strokes in the UK every year.¹ That is more than one every five minutes.

- There are approximately 1.1 million stroke survivors living in the UK.²

- Stroke is a leading cause of adult disability.³ More than half of all stroke survivors are left dependent on others for everyday activities.⁴

- High blood pressure is the most important risk factor for stroke, contributing to about 50% of all strokes.⁵

- One in five strokes are fatal. Stroke causes about 7% of deaths in men and 10% of deaths in women.⁶

- In 2010 stroke was the fourth largest cause of death in the UK after cancer, heart disease and respiratory disease, causing almost 50,000 deaths.⁷

- For every 1,000 patients who receive thrombolysis, a clot busting treatment, 80 will live more independently.⁸

- For every cancer patient living in the UK, £295 is spent each year on medical research, compared with just £22 a year for every stroke patient.⁹

**Incidence of stroke**

<table>
<thead>
<tr>
<th>Incidence of stroke (per 100,000)¹⁰</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Men</strong></td>
</tr>
<tr>
<td>England</td>
</tr>
<tr>
<td>Scotland</td>
</tr>
<tr>
<td><strong>Women</strong></td>
</tr>
<tr>
<td>England</td>
</tr>
<tr>
<td>Scotland</td>
</tr>
</tbody>
</table>

*Note:* Figures not available for Northern Ireland and Wales.

Stroke incidence is approximately 25% higher in men than in women.¹¹

*Note:* Although stroke incidence is higher for men, there are more strokes in women because women generally live longer than men.

Stroke incidence decreased by about 18% in men and 24% in women between 1995/6 and 2003/4.¹²

African-Caribbean people are twice as likely to have a stroke compared with white people.¹³

80% of subarachnoid haemorrhages occur in women.¹⁴

About 5% of strokes occur in people already in hospital.¹⁵
Prevalence of stroke

The prevalence of stroke

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>2.4%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Scotland</td>
<td>3.3%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Wales</td>
<td>3%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Transient ischaemic attack (TIA)

About 46,000 people in the UK each year have a first TIA.\(^{17}\)

In 2004, one in 10 TIAs led to a stroke within a week.\(^{18}\) Treating TIAs urgently reduces the risk of stroke by 80%\(^{19}\) and in 2012, about one in 20 TIAs led to a stroke within a week.\(^{20}\)

Risk of further stroke

After a stroke the risk of a further one is significant and is highest in the first month.\(^{21}\)

The cumulative risk of recurrent stroke is: \(^{22}\)

Types of stroke

Approximately: \(^{23}\)

85% of strokes are caused by a blockage (called ischaemic strokes).

15% of strokes are caused by bleeding in the brain (called haemorrhagic strokes) with

- 10% caused by a primary intercerebral haemorrhage,
- 5% caused by a subarachnoid haemorrhage.

Causes of ischaemic stroke

Atherosclerosis in the large arteries - 50%.\(^{24}\)

A blood clot forming in the heart and travelling to the brain - 20%.\(^{25}\)

Lacunar strokes - 25%.\(^{26}\)

Rare causes including arterial dissection and patent foramen ovale - 5%.\(^{27}\)
Stroke statistics

Mortality

One in five strokes are fatal.\(^{28}\)

In 2010 stroke was the fourth largest cause of death in the UK after cancer, heart disease and respiratory disease.\(^{29}\)

In 2010 stroke caused almost 50,000 deaths in the UK.\(^{30}\) This is approximately 7% of all deaths in men and 10% of all deaths in women.\(^{31}\)

**Breakdown of total number of deaths from stroke by UK country, 2010** \(^{32}\)

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>19,287</td>
<td>30,079</td>
<td>49,366</td>
</tr>
<tr>
<td>England</td>
<td>15,824</td>
<td>24,743</td>
<td>40,567</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>489</td>
<td>750</td>
<td>1,239</td>
</tr>
<tr>
<td>Scotland</td>
<td>1,889</td>
<td>2,875</td>
<td>4,764</td>
</tr>
<tr>
<td>Wales</td>
<td>1,085</td>
<td>1,711</td>
<td>2,796</td>
</tr>
</tbody>
</table>

Death rates from stroke vary across the UK with the highest rates in Scotland, the North of England, Wales and Northern Ireland. The lowest rates are in the South of England, particularly in London.\(^{34}\)

**Deaths from subarachnoid haemorrhage**

10-15% of people die before they reach hospital.\(^{35}\)

25% of people die within 24 hours.\(^{36}\)

Overall survival rates after a subarachnoidal haemorrhage are 50%.\(^{37}\)

**Premature mortality**

Stroke is a major cause of premature mortality, responsible for over 8,500 deaths a year.\(^{38}\)

Premature death rates from stroke are around three times higher in the most deprived areas of the UK than in the least deprived.\(^{39}\)

Stroke mortality rates have halved over the last 20 years.\(^{33}\)

---

**Age**

The incidence of stroke increases rapidly with age.\(^{40}\)

**Breakdown of total number of deaths from stroke by age and sex in the UK 2010**\(^{41}\)

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Under 35</strong></td>
<td>91</td>
<td>62</td>
<td>153</td>
</tr>
<tr>
<td><strong>35-44</strong></td>
<td>224</td>
<td>131</td>
<td>355</td>
</tr>
<tr>
<td><strong>45-54</strong></td>
<td>515</td>
<td>425</td>
<td>949</td>
</tr>
<tr>
<td><strong>55-64</strong></td>
<td>1,126</td>
<td>813</td>
<td>1,939</td>
</tr>
<tr>
<td><strong>65-74</strong></td>
<td>2,883</td>
<td>2,326</td>
<td>5,209</td>
</tr>
<tr>
<td><strong>75+</strong></td>
<td>14,448</td>
<td>26,322</td>
<td>40,770</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>19,287</td>
<td>30,079</td>
<td>49,366</td>
</tr>
</tbody>
</table>

**Stroke in younger adults**

Approximately 25% of strokes occur in people aged under 65 years.\(^{42}\)

Between 40% and 50% of strokes in younger adults are haemorrhagic.\(^{43}\)

In about a third of strokes in younger adults, a cause cannot be identified.\(^{44}\)

**Childhood stroke**

Five out of every 100,000 children each year have a stroke in the UK.\(^{45}\)

50% of childhood strokes are haemorrhagic, and 50% are ischaemic.\(^{46}\)

Heart disorders cause up to 25% of ischaemic strokes in children.\(^{47}\)

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**Morbidity**

Stroke is a leading cause of adult disability.\(^{48}\)

More than half of all stroke survivors are left dependent on others for everyday activities.\(^{49}\)

Stroke causes a greater range of disabilities than any other condition.\(^{50}\)

Stroke has a greater disability impact than other chronic diseases.\(^{51}\)

Stroke is the largest cause of complex disability in adults.\(^{52}\)

Of those who survive stroke, approximately:

- 42% will be independent
- 22% have mild disability
- 14% have moderate disability
- 10% have severe disability
- 12% have very severe disability.\(^{53}\)

At least a quarter of people in residential nursing care have had a stroke.\(^{54}\)

Approximately 11% of stroke patients are newly admitted to a care home after their stroke.\(^{55}\)
Stroke statistics

Specific effects of stroke

<table>
<thead>
<tr>
<th>Difficulty</th>
<th>Percentage of people affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>General movement</td>
<td>80%</td>
</tr>
<tr>
<td>Arm movement</td>
<td>70%</td>
</tr>
<tr>
<td>Unable to use one arm in the long term</td>
<td>40%</td>
</tr>
<tr>
<td>Spasticity</td>
<td>19-38%</td>
</tr>
<tr>
<td>Altered sensation</td>
<td>Up to 80%</td>
</tr>
<tr>
<td>Swallowing</td>
<td>40%</td>
</tr>
<tr>
<td>Aphasia</td>
<td>33%</td>
</tr>
<tr>
<td>Visual problems</td>
<td>Up to 66%</td>
</tr>
<tr>
<td>Depression</td>
<td>29%</td>
</tr>
<tr>
<td>Emotionalism in the first six months</td>
<td>20%</td>
</tr>
<tr>
<td>Ongoing emotionalism</td>
<td>10%</td>
</tr>
<tr>
<td>Dementia six months post-stroke</td>
<td>20%</td>
</tr>
<tr>
<td>Central post-stroke pain</td>
<td>5-20%</td>
</tr>
<tr>
<td>Bladder control on being admitted to hospital</td>
<td>50%</td>
</tr>
<tr>
<td>Bowel control on being admitted to hospital</td>
<td>33%</td>
</tr>
<tr>
<td>Incontinence one year post-stroke</td>
<td>15%</td>
</tr>
</tbody>
</table>

European stroke statistics

Stroke is the second most common cause of death in Europe, causing 1.1 million deaths each year. This is 10% of all deaths in men and 15% of all deaths in women.

In people aged under 75, stroke causes over 370,000 deaths in Europe which is 8% of all deaths in men and 11% of all deaths in women.

In people aged under 65, stroke causes over 150,000 deaths in Europe, which is 6% of all deaths in men and 11% of all deaths in women.

Stroke costs the EU over 38 billion euros a year.

Worldwide stroke statistics

Approximately 15 million people worldwide have a stroke each year.

1 in 6 people around the world will have a stroke in their lifetime.

Two-thirds of stroke deaths occur in less developed countries.

Preventing stroke

Approximately 20,000 strokes in England alone could be avoided by preventative work on high blood pressure, irregular heartbeats, smoking cessation and wider statin use.

Lifestyle factors

Smoking

Smoking doubles the risk of stroke.

It is estimated that there are over 10.5 million adult smokers in the UK. 20% of adults in Great Britain and 24% of adults in Northern Ireland smoke.

The more you smoke, the greater your risk.

A person smoking 20 cigarettes a day has six times the risk of stroke compared to a non-smoker.

Smoking is particularly dangerous if you have high blood pressure. You are five times more likely to have a stroke than smokers with normal blood pressure, and 20 times more likely to have a stroke than non-smokers with normal blood pressure.
Stroke statistics

It is estimated that 10% of deaths from stroke are due to smoking.\(^{89}\)

It is estimated that around 3,500 deaths from stroke each year are due to passive smoking.\(^{90}\)

**Diet**

Eating high amounts of fruit and vegetables can reduce your risk of stroke by up to 30% and the more you eat, the lower your risk.\(^{91}\) Every extra portion may reduce the risk by around another 5%.\(^{92}\)

Less than one third of people in Great Britain eat the recommended five or more portions of fruit and vegetables a day.\(^{93}\)

Higher salt intake is associated with a significantly greater incidence of stroke.\(^{94}\) An increase of 5g of salt a day is associated with a 23% increased risk of stroke.\(^{95}\)

The average daily salt intake is 10g for men and 8g for women in Great Britain, much higher than recommended daily intake of 6g.\(^{96}\)

**Overweight and obesity**

Being overweight increases your risk of ischaemic stroke by 1.22.\(^{97}\)

Being obese increases your risk of ischaemic stroke by 1.64.\(^{98}\)

**Rates of overweight in the UK**

(latest figures available for each country) \(^{99}\)

<table>
<thead>
<tr>
<th>Country</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>42%</td>
<td>32%</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>39%</td>
<td>30%</td>
</tr>
<tr>
<td>Scotland</td>
<td>39%</td>
<td>32%</td>
</tr>
<tr>
<td>Wales</td>
<td>41%</td>
<td>31%</td>
</tr>
</tbody>
</table>

**Rates of obesity in the UK**

(latest figures available for each country) \(^{100}\)

<table>
<thead>
<tr>
<th>Country</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>26%</td>
<td>26%</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>25%</td>
<td>23%</td>
</tr>
<tr>
<td>Scotland</td>
<td>27%</td>
<td>28%</td>
</tr>
<tr>
<td>Wales</td>
<td>21%</td>
<td>21%</td>
</tr>
</tbody>
</table>

**Exercise**

Moderate physical activity can reduce the risk of stroke by up to 27%.\(^{101}\)

Being physically inactive increases your risk of ischaemic stroke by 1.5.\(^{102}\)

**Percentage of adults meeting the recommendations for physical activity** \(^{103}\)

<table>
<thead>
<tr>
<th>Country</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>42%</td>
<td>31%</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>44%</td>
<td>35%</td>
</tr>
<tr>
<td>Scotland</td>
<td>45%</td>
<td>33%</td>
</tr>
<tr>
<td>Wales</td>
<td>37%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Around a third of adults in 2009 were inactive, doing less than one 30 minute session of exercise a week.\(^{104}\)
**Stroke statistics**

**Alcohol**
People regularly consuming a large amount of alcohol have a three fold increased risk of stroke.\(^{105}\)

In Great Britain (2010), 36% of men and 28% of women regularly consumed more than the recommended level of alcohol.\(^{106}\)

**Medical conditions**

**High blood pressure**
High blood pressure is the most important risk factor for stroke, contributing to about 50% of all strokes.\(^{107}\)

In England (2010) 31% of men and 29% of women had high blood pressure (a reading over 140/90mmHg or receiving treatment).\(^{108}\)

In Scotland (2010) 35% of men and 30% of women had high blood pressure.\(^{109}\)

*Note:* Comparable data from Wales and Northern Ireland is not available.\(^{110}\)

53% of men and 41% of women with high blood pressure are not receiving treatment and of those being treated, around half still have high blood pressure.\(^{111}\)

**Diabetes**
People with diabetes are twice as likely to have a stroke compared to those without the condition.\(^{112}\)

It is estimated that there are around 850,000 people in the UK who have undiagnosed diabetes.\(^{114}\)

Type 2 diabetes is up to six times more common in people of South Asian descent and up to three times more common among people of African and African-Caribbean origin.\(^{115}\)

**Atrial fibrillation (irregular heart beat)**
Atrial fibrillation increases your risk of stroke by up to five times.\(^{116}\)

Approximately 12,500 strokes a year are directly attributed to atrial fibrillation.\(^{117}\)

Appropriate treatment of atrial fibrillation could prevent 4,500 strokes and 3,000 deaths each year.\(^{118}\)

Atrial fibrillation affects about 800,000 people in the UK.\(^{119}\)

About a quarter of people admitted to hospital with stroke are in atrial fibrillation.\(^{120}\)

**High cholesterol**
High cholesterol is a contributory risk factor for stroke, having more of an effect on people who smoke or who are inactive. Reducing cholesterol levels with use of statins has been shown to reduce the risk of stroke by 21%.\(^{121}\)

Approximately 58% of men and 61% women in England (2008) had cholesterol levels above the recommended level of 5.0mmol/l.\(^{122}\)

In Scotland 57% men and 58% women (aged up to 64) had cholesterol levels above the recommended level of 5.0mmol/l.\(^{123}\)

**Prevalence of diagnosed diabetes in the UK (adults) 2010**\(^{113}\)

<table>
<thead>
<tr>
<th>Country</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>6.3%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Scotland</td>
<td>5.8%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Wales</td>
<td>7%</td>
<td>6%</td>
</tr>
</tbody>
</table>
Stroke statistics

Stroke care

In 2010/11, 1% of all NHS inpatient episodes in England and 2% in Scotland were due to stroke.\(^\text{124}\)

For every 1,000 patients who receive thrombolysis, a clot busting treatment, 80 will live more independently.\(^\text{125}\)

In England, Wales and Northern Ireland only 5% of patients received thrombolysis treatment in 2010, though it could have benefited 14% of patients. But this is an improvement from 1.8% of patients who received thrombolysis in 2008.\(^\text{126}\)

In Scotland 6% of stroke patients received thrombolysis in 2010.\(^\text{127}\)

Patients cared for in a defined stroke unit with organised stroke services are more likely to survive, have fewer complications, and return home and regain independence quicker than patients on a general medical ward.\(^\text{128}\)

There are over 21,000 surgical procedures related to stroke every year in England.\(^\text{129}\)

Carotid endarterectomy reduces the risk of stroke by 16% in people with severe stenosis, and by 4.6% in people with moderate stenosis.\(^\text{130}\)

The mean length of stay in hospital for stroke patients has decreased significantly from 32 days in 2000, to 20 days in 2010.\(^\text{131}\)

Community based specialist rehabilitation such as Early Supported Discharge can provide better and potentially more cost effective outcomes for people with moderate disabilities but only 36% of hospitals have these teams.\(^\text{132}\)

For every 100 patients receiving Early Supported Discharge, six fewer will die or live dependent on daily support from carers.\(^\text{133}\)

81% of patients admitted to hospital with stroke have a history of known vascular risk factors, about 29% have had a previous stroke or TIA and 57% have high blood pressure.\(^\text{134}\)

Financial impact of stroke

The costs of stroke are estimated to be between £3.7 billion\(^\text{135}\) and £8 billion.\(^\text{136}\)

These estimated costs include direct health care costs, productivity loses due to mortality and morbidity, and informal care costs.
Stroke statistics

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Item code: A01R11

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Texts cost £5 plus your standard network rate of which a minimum £4.70 will go to the Stroke Association. Full terms and conditions at www.stroke.org.uk/textterms

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