

AT WHAT COST

THE ECONOMIC IMPACT OF STROKE IN EUROPE

RESEARCH

- factsheet -



Why did we commission the research?

At the European level, it is very likely that stroke research is underfunded compared to other major chronic conditions. What is less clear is just what is the spend on stroke prevention campaigns, or rehabilitation or reintegration work across Europe.

Given the expected rise in the ageing population in the next 10-20 years, and the expected increased levels of other conditions that elevate the risk of stroke, including obesity, diabetes, dementia and heart disease, we can reasonably expect the current cost burden to be significantly escalated if we do not address the issue now and invest further funds into stroke to halt, or at least slow down, the increasing human, societal and economic burden of stroke.

SAFE and its members needed to continue to develop a robust case that will allow us to bring the issue of stroke and its costs to the forefront across a wider audience, including government, policy makers and those who give money to charities to improve the lives of others. To do this, we needed to develop a clearer understanding of the current economic, societal and social costs of stroke as well as a calculation of how further investment could impact on this and help to reduce the burden of stroke.

In 2017 we commissioned the University of Oxford to carry out the research project.

About the research

At What Cost - the Economic Impact of Stroke in Europe research builds on the Burden of Stroke in Europe report findings (May 2017), which revealed the extent of stroke across Europe and the provision for stroke between regions and countries. At What Cost - the Economic Impact of Stroke in Europe provides for the first time a picture of the full economic burden of stroke in 2017, and projected costs over the next 20 years.

The research provides details on the costs of different parts of the stroke care pathway, the costs of informal care and the productivity losses due to disability or death from stroke for all of the countries of the European Union, plus the Iceland, Israel, Norway, Switzerland and UK.

The study analysed three interventions which are in the latest stroke guidelines: the treatment of atrial fibrillation to prevent stroke; mechanical thrombectomy (the clot retrieval from the blood vessel in the brain) in the acute phase of stroke and rehabilitation after stroke.

The research estimates the impact these interventions have on the costs of stroke and on the number of years of life in good health that they save.

At What Cost – the Economic Impact of Stroke in Europe outlines recommendations on how best to reduce the economic impact of rising numbers of stroke, identifying the main drivers of these rising costs.

Key findings

In 2017, nearly 1.5 million people suffered a stroke in the 32 European countries under study, nine million Europeans were living with stroke, and almost half a million people died due to a stroke.

The total cost of stroke in these 32 countries was €60 billion in 2017:

- €27 billion of that total was spent on healthcare
- €5 billion on social care (nursing or residential care)
- €16 billion was spent on the informal, unpaid care provided to millions of stroke survivors by loved ones
- €12 billion of the costs of stroke are attributed to lost productivity due to deaths and disability from stroke of people of working age.

**€27 BILLION
ON
HEALTHCARE**



**€16 BILLION ON
INFORMAL,
UNPAID CARE**



**€5 BILLION
ON SOCIAL
CARE**



**€12 BILLION
ON LOST
PRODUCTIVITY**



The total **healthcare** costs were calculated from the following stroke-related health resources:

- Number of GP visits – 97,674,000 (the overall cost was €3.3 billion)
- Number of outpatient visits – 62,606,000 (consultants cost €4.7 billion)
- Number of emergency care visits – 6,202,000 (costing €919 million overall)
- Number of days in hospital – 25,581,000 (total cost of €16.4 billion)
- European spend on pharmaceuticals used to prevent and treat stroke was €1.3 billion.

The **social care** costs were based on the number of days in nursing/residential care homes by stroke survivors (43,168,000) at a total cost €4.7 billion. The cost is almost certainly an underestimate as we did not include other costs such as provision of meals at home, social work support or home adaptations and home help as this data is not available.

On average, in 2017, friends and family provided 1,052 hours of **informal care** for each person with stroke who was severely limited in activities of daily living.

Of the nine million people with stroke, 1.2 million were severely hampered in their activities of daily living. In total, they received 1.3 billion hours of care from friends and family. These 1.3 billion hours of informal care provided across Europe were valued at €16 billion for the year 2017.

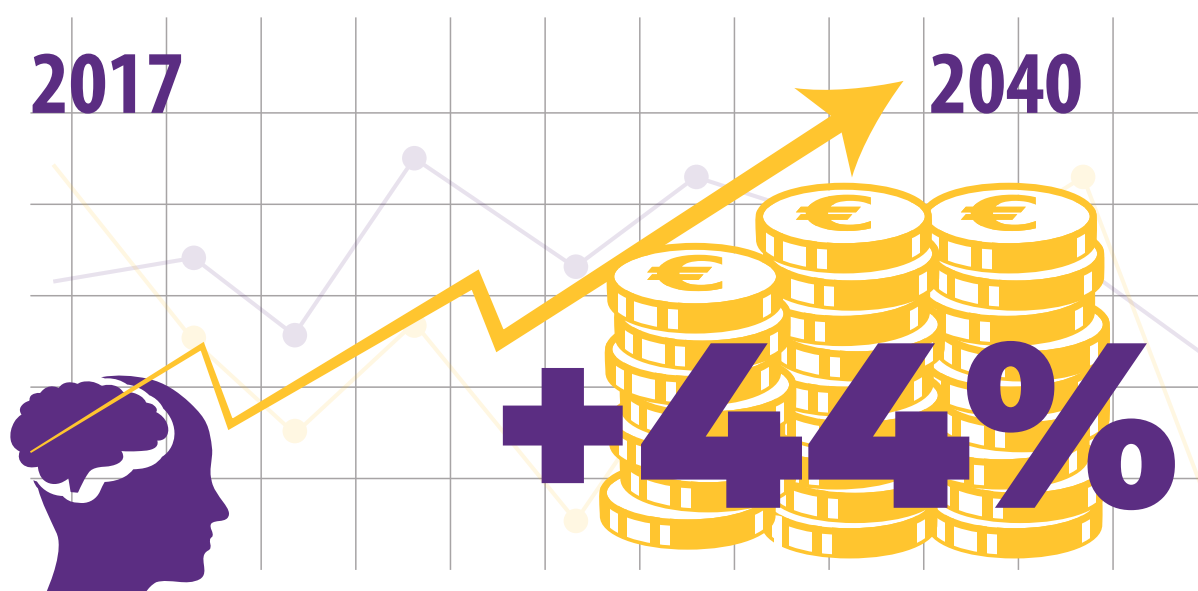
There was a total of 438,000 deaths due to stroke in the 32 European countries under analysis, amounting to 286,000 potential years of work lost. After discounting future losses (i.e. those losses incurred after the first year of death), premature mortality cost the 32 European countries under study a total of €6.2 billion.

A total of 38 million working days were lost due to permanent and temporary absence from work across Europe due to stroke. These losses were valued at €6.3 billion. In total, productivity losses due to **death or disability** caused by stroke amounted to €12.5 billion.

Future cost projections

The projected number of people living with stroke will increase by 35%, from nine million in 2017 to 12 million in 2040.

- 11 million in 2030, an increase of 21%
- 11.5 million in 2035, an increase of 29%
- 12 million in 2040, an increase of 35%



This coupled with a decrease in birth rates, an ageing population and a reduction in working age population in Europe over the next 50 years, will increase the economic impact of stroke.

We estimate the costs of stroke will increase from €60 billion in 2017 to €75 billion in 2030, €80 billion in 2035 and €86 billion in 2040. This means that, in just 13 years, the costs of stroke are projected to increase by 26%, and by 44% in 23 years' time.

Investing in stroke care – prevention, treatment and rehabilitation interventions

The rising costs of stroke will put strain on already stretched health and social care budgets. European countries need to invest in stroke interventions that are cost-effective, improve outcomes for people who have had a stroke and halt this increase in costs.

Our study evaluated three different interventions across the stroke pathway that already have a strong evidence base for their clinical effectiveness. For each, we made projections of costs over a five-year period (starting from the baseline of 2017). We also used Quality Adjusted Life Years (QALYS) to work out the cost effectiveness of the interventions as well as comparing the number of cases, healthcare costs, informal care costs and productivity losses associated with implementing the intervention versus current practice.

Prevention

Routinely treating people who have atrial fibrillation (uneven heartbeat) with either warfarin or new anticoagulant therapies. Atrial fibrillation is a major risk factor for stroke. Treatment with anticoagulant drugs reduces the risk of blood clots forming which can travel through the vascular system to the brain, causing a blockage – an ischaemic stroke.

Treating eligible atrial fibrillation patients with warfarin would generate cost-savings of €7 billion and add 136,000 QALYS years (over five years). Overall, routine use of new oral anticoagulants generated 310,000 extra QALYS at an extra societal cost of €2 billion. Cost savings varied at a country level, with wealthier countries benefiting the most.

Acute treatment

To minimise stroke damage to the brain and reduce likelihood of disability, using mechanical thrombectomy (MT) - removing blood clots in the brain – to acutely treat people with ischaemic stroke.

In 2017, just over one million people aged 20 years and over suffered an ischaemic stroke across Europe. Of these, 27% (267,514) were eligible for mechanical thrombectomy. Over the five years, treating all eligible patients with mechanical thrombectomy generated health and social care costs of €11 billion compared with €12 billion for current practice.

Rehabilitation in a community setting

Once stroke patients are discharged from hospital to improve the quality of life for stroke survivors.

In 2017, across Europe, just over 1.4 million people aged 20 years or over suffered an ischaemic or haemorrhagic stroke. Of these, 855,083 (59%) stroke patients were eligible for community-based rehabilitation. Over the five years, community-based rehabilitation was associated with overall health and social care costs of €31.6 billion compared with €31.8 billion for current practice.

Conclusion

The costs of stroke in the 32 countries studied will rise by 44% between 2017 and 2040, with some countries seeing a rise of nearly 100%. Policy makers and health planners need to act. Health and social care systems need to be improved and the increasing burden on informal carers needs to be acknowledged and acted upon. European countries need to put interventions and policies in place to mitigate these cost increases, whilst also maximising the health outcomes and quality of life for stroke survivors. Based on our findings for these interventions, SAFE believes that improving stroke care at all stages of the care pathway would not only improve outcomes but also reduce the economic burden of stroke.

About SAFE

This research was commissioned by Stroke Alliance for Europe (SAFE), a non-profit-making organisation that represents a range of stroke support organisations from across Europe, whose mutual goal is to drive stroke as a topic up the EU and national political agendas.

SAFE aims to decrease the number of strokes in Europe by advocating for more patient-centred research, better prevention, access to adequate treatment and a life after stroke worth living. Since 2004, project by project, SAFE is raising awareness of the major impact stroke has on individuals, families, countries and, finally, on the entire economy of Europe.



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