

# No stroke untreated:

A fairer health system, delivering all Australians the opportunity to survive and live well after stroke



[strokefoundation.org.au](http://strokefoundation.org.au)

*Stroke survivor Dan Englund and family*



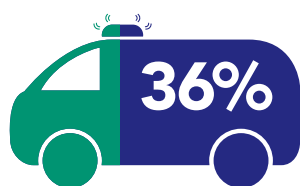
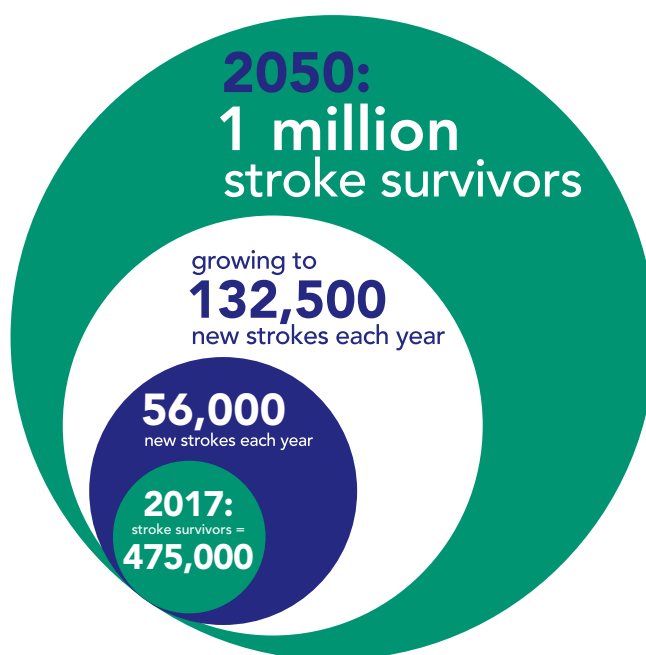
# Stroke in Australia



In 2017, someone had a stroke in Australia every **9 minutes**

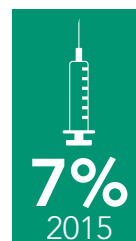


Regional Australians are **19 percent** more likely to suffer a stroke than those in metropolitan areas



**36%**  
of patients reached hospital in 4.5 hour time window for thrombolysis

Use of thrombolysis increased



The total financial cost of stroke in Australia in 2012 was estimated to be \$5 billion. At this time Australians experienced 49,000 strokes per year and there were around 420,000 stroke survivors in the community. This number has since increased. The largest cost component was productivity costs (\$3 billion), while health costs were also significant at \$881 million. Carer costs were estimated to be \$222 million.



# At a glance

The Stroke Foundation is calling on the next Australian Government to deliver a fairer and better health system providing all Australians the opportunity to survive and live well after stroke.

## Prevent stroke

### Community health checks to enable early detection of chronic disease

Supporting all Australians, including those from high risk and vulnerable populations, to engage in conversations about their health through participation in chronic disease risk assessments.

**Result:** A healthier Australia, with more Australians empowered to understand their stroke and chronic disease risk and able to manage it.

## Save lives

### Australian Telestroke Network

Transform emergency stroke care in Australia's regional and rural communities by harnessing digital technology to ensure equitable and fair access to stroke specialists and emergency stroke treatment.

**Investment:** \$11.9 million over four years for establishment of the network, including a F.A.S.T. (Face, Arms, Speech, and Time) community education program.

**Result:** Regional and rural Australians surviving and living well after stroke.

## Enhance recovery

### Stroke Outreach Program (StOP)

A dedicated telephone service reaching out to stroke survivors and their carers on their return home, to provide much needed education, support and links to local health services.

**Investment:** \$17 million over four years.

**Result:** More Australian stroke survivors living well after stroke by managing their future stroke risk and continuing their recovery.

## Ready for work

Targeted project investing in the future of working-age Australians impacted by stroke by supporting their unmet needs. Helping survivors return to work and return to life.

**Investment:** \$3.2 million over four years.

**Result:** Recovery from stroke maximised for thousands of Australians, meaning more survivors and their carers can get back to work, benefiting individuals, the community and industry.

## Champion research

### Living Evidence Platform

Take the next step in research, bringing together a world-first living evidence platform utilising the latest in technology, artificial intelligence, citizen science and peer review to transform translation of research into best-practice guidelines.

**Investment:** \$5 million over four years.

**Result:** Better health outcomes for all Australians, through improved and consistent access to world-class treatment for stroke and other diseases reflective of the latest in research nationally and internationally.

### Helping childhood stroke survivors grow and thrive

A dedicated program of research and support to make the path ahead easier and improve outcomes for some of our youngest stroke survivors and their families.

**Investment:** \$4.3 million over four years.

**Result:** Australian children and their families supported to grow and thrive after stroke with the treatment, supports and information they need.

# A call to action

The next Australian Government can deliver a fairer health system ensuring all Australians can survive and live well after stroke.

Survival and living well after stroke should not be determined by your postcode.

Currently, regional Australians are more likely to experience a stroke, and are also more likely to die or be left with significant disability because of limited access to specialist treatment.

It doesn't need to be this way.

*No stroke untreated* will ensure more timely access to better stroke treatment, leading to improved health outcomes for patients as well as reduced hospital stays and avoided hospital admissions. It will ensure a better health system that is more equitable and sustainable.

Stroke can be prevented, it can be treated and it can be beaten.

All Australians need and deserve access to a strong health system delivering high quality care.

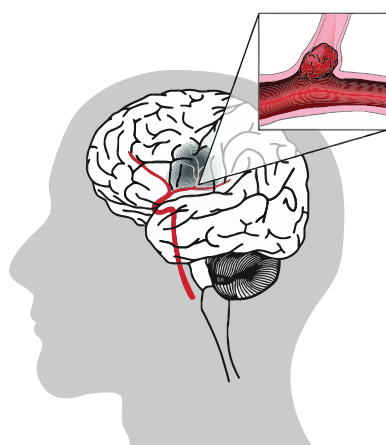
*Government has recognised the ever increasing burden of stroke in our community. Now is the time to act to implement the in-development National Action Plan for Heart and Stroke to stem the tide of this disease in our community.*

## What is stroke?

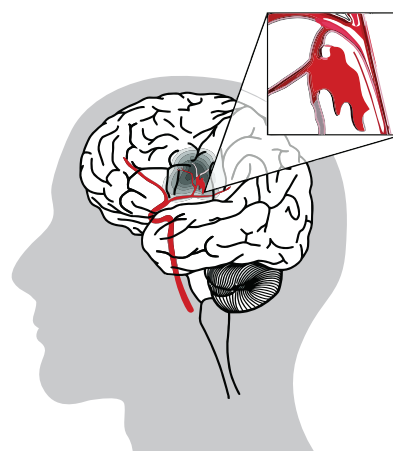
Stroke attacks the brain – our most vital organ. A stroke occurs when blood supply to the brain is cut off because of a clot blocking an artery (ischaemic stroke) or due to a burst artery (haemorrhagic stroke).

When blood supply to the brain is blocked, cells begin to die at a rate of up to 1.9 million each minute<sup>1</sup>.

Every stroke is different depending on where in the brain it strikes and how severe it is. What is common is the devastation it causes to the survivor, their carer and family. Stroke is the leading cause of acquired disability for adults<sup>2</sup>.



**Clot**  
(Ischaemic stroke)



**Bleed**  
(Intracerebral haemorrhage)

# Prevent stroke

## Community health checks to enable early detection of chronic disease

**Objective:** Help Australians to be healthier through the delivery of stroke and chronic disease risk health checks as well as supports to reduce and manage their risk.

- 4.1 million Australians have high blood pressure.<sup>3</sup>
- Almost one in two Australian adults, and 80 percent of children are not getting enough exercise.<sup>4</sup>
- 93 percent of Australians do not eat enough vegetables and half of all Australians do not eat enough fruit.<sup>4</sup>
- 59 percent of Australians have low health literacy.<sup>4</sup>

Around 80 percent of strokes can be prevented.<sup>5</sup> If high blood pressure alone was eliminated it is estimated the number of strokes would be halved.<sup>5</sup>

Australians must be empowered to be healthier.

Heart disease, stroke, kidney disease, cancer and type 2 diabetes share many modifiable risk factors. Delivery of opportunistic community health checks, supported by an evidence-based lifestyle modification program will enable Australians to identify their stroke and chronic disease risk, and manage it.

We have an opportunity to come together to empower the community to be healthier.

Prevention is a long-term investment and it needs Government commitment.

*My health for life* is being delivered in Queensland by an alliance, including Stroke Foundation, Diabetes Queensland, Heart Foundation, Queensland Aboriginal and Islander Health Council, Ethnic Communities Council of Queensland and Queensland Primary Health Networks with the support of the Queensland Government. This program supports Queenslanders to take responsibility for their own health, and facilitates the incorporation of healthy behaviours into our community.

In early stages of implementation, it is having an impact.

**Research shows for every dollar invested in prevention within Australia there is a \$14 return.<sup>6</sup>**



New South Wales South Coast resident Lyn Larkins was 52 when she suffered a stroke. Before her stroke, Lyn had been neglecting her health for many years. Her cholesterol was high. She had out of control diabetes and was very overweight – a size 20. After the stroke she turned her health around. Changing the food she ate and educating herself about what was in the food was a big part of her recovery.

**“I always thought the way I was before was the norm. Now that I eat well, exercise and feel wonderful, I think I should have made all of these changes years ago.” – Lyn Larkins, stroke survivor.**



**Mandy Bowler** was 44 when she suffered a life-altering stroke, she was also smoking 45 cigarettes a day:

“Since my stroke I have had difficulties reading, slur my words if I am tired and have suffered from depression, mood changes and memory issues. But on the upside, I have never touched a cigarette again.”

# Save lives

## Australian Telestroke Network

**Objective:** Harness telehealth technology and foster innovation to transform emergency stroke treatment for regional and rural Australians.

**Investment required:** \$11.9 million over four years for establishment of the network.

The Australian Telestroke Network will deliver regional and rural Australians a fair go at surviving and living well after stroke by providing safe, seamless and secure healthcare.

Stroke is a time-critical medical emergency where time saved equals brain saved. Advancements in stroke treatment mean patients can make a full recovery if they can access emergency treatment in time.

Currently, regional and rural Australians have limited access to stroke specialists and treatment, and it is costing lives and devastating families.

Telehealth and supporting treatment pathways are proven to increase access to time-critical stroke treatment and improve health outcomes. A state-wide service is benefiting regional Victorians and pilot projects are benefiting some areas of regional New South Wales, Western Australia and South Australia. Now is the time to harness the learnings from these programs for all regional and rural Australians.

An investment in an Australian Telestroke Network is an investment in the health of Australians. It will save lives, strengthen our health system, better support our hard-working health professionals and deliver savings to the health budget.

Too often treatment is delayed due to a lack of awareness about the signs and symptoms of stroke. Effective public education campaigns need to be a continuous activity to maximise their potential.

**Stroke Foundation's F.A.S.T. (Face, Arms, Speech and Time) community education program will be critical to the successful implementation of the Australian Telestroke Network, and will raise vital awareness of stroke risk factors and the signs of stroke in local communities across Australia.**



Recognise  
**STROKE**  
Think **F.A.S.T.**

Stroke  
FOUNDATION

**F**  
Has their  
**FACE**  
drooped?

**A**  
Can they lift both  
**ARMS?**

**S**  
Is their  
**SPEECH**  
slurred and do they  
understand you?

**T**  
Call 000,  
**TIME**  
is critical

If you see any of these symptoms  
**Act FAST call 000**

- > **64 percent** of Australian stroke patients arrive at hospital **outside** of the **4.5 hour window** for time-critical **clot-dissolving treatment**.
- > This globally adopted message has proven results locally and internationally with a **return on marketing investment as high as 28:1 (UK data)**.





“The one thing I always remember is the doctor in charge in ICU saying it took us too long to get to the stroke unit,” Tracy said. “I remember asking how rural patients were supposed to get to hospital in time.”

– Tracy Ward, wife and carer to stroke survivor Stephen and regional Australian.

**Together, we can break down barriers to world-class, best-practice stroke treatment. We can ensure all Australians have access to treatment and care when and where it is needed most.**

- › Use data and benchmarking to highlight what is working well in our hospitals, where improvements are needed, and help guide investment and focus for a world-class sustainable health system.
- › Continue to invest in the development of new innovations to equip our first responders with the knowledge, tools and support to deliver an urgent response to stroke every time.
- › Partner with Aboriginal and Torres Strait Islander communities to investigate and address obstacles to stroke treatment, including building on learnings and maximising the benefits of the Australian Telestroke Network.



**Dan Englund**, a carpenter from Emerald in rural Queensland, was 38 when he experienced his stroke. Like most rural areas, there was no access to the tools or expertise needed to diagnose and treat stroke.

“Nothing came up on the CT (brain scan) and there were also no ‘clot busting’ drugs in Emerald, so I didn’t get any treatment there,” Dan said.

“Time is so important with stroke – I didn’t get treatment until 12 hours after my stroke.”

# Enhance recovery

## Stroke Outreach Program StOP

**Objective:** Reduce readmission to hospital from stroke by ensuring all Australian stroke survivors and their carers are supported to access the information, resources and services they need to recover and live well after stroke.

**Investment required:** \$17 million over four years.

Four in 10 stroke survivors will go on to have another stroke within a decade<sup>7</sup>, yet the risk of having a further stroke can be reduced with timely intervention and support following hospital discharge. Stroke survivors and their families or carers are leaving hospital without the knowledge and support they need to reduce the risk of experiencing another stroke and live well. Gaps in advice regarding lifestyle and the importance of secondary prevention medications can have significant, and at times devastating, implications for patients, their families and the health system.

StOP will close these gaps and reduce the risk of recurrent stroke by delivering:

- › **Education and support for hospital clinicians** – equipping health professionals to deliver targeted secondary prevention education and recovery planning for every patient with stroke, every time.
- › **Support from a Stroke Foundation health professional to stroke survivors** within 21 days of leaving hospital to:
  - o Provide education, resources and strategies on stroke and reduce the risk of subsequent stroke.
  - o Promote connection with general practitioners, attendance at outpatient appointments and help connect families with community services.
  - o Screen for risk and vulnerability, with a focus on depression and anxiety.

StOP builds on Stroke Foundation's extensive experience partnering with health services to provide survivors with much needed education and support, manage their health and wellbeing and get their lives back on track.

A similar program delivered in Queensland, funded by the State Government, has delivered results:

- › 75 percent of hospital representatives and 100 percent of participating GPs agreed that the *Follow Up* service improves knowledge of the secondary risk factors for stroke and assists clients with self-management and improving confidence post stroke.
- › 75 percent of those engaged with the *Follow Up* service stated they had since adopted a healthier lifestyle, including increased physical activity, maintaining a healthy weight and improving mental health.

### Facts

- › Risk of recurrent stroke is highest in the first year after stroke<sup>7</sup>.
- › Almost one in three patients leave hospital without vital advice on what they can do to reduce their risk of another stroke<sup>8</sup>.
- › Almost one in three patients with stroke are discharged without secondary prevention medications (statin, antihypertensive, antithrombotic)<sup>8</sup>.

# Enhance recovery

## Ready for work

**Objective:** Working-age Australian stroke survivors will be empowered to maximise life after stroke. Survivors will be supported to grow and thrive, to get back to work and contribute to the community. This project will reduce stroke's burden on families, the community and government.

**Investment required:** \$3.2 million over four years.

- › 20 strokes a day are impacting Australians of working age<sup>9</sup>.
- › 96 percent of young stroke survivors report having ongoing needs after their stroke<sup>10</sup>.
- › 88 percent of young stroke survivors report unmet needs across health, everyday living, leisure activities, employment and finance – greater than older stroke survivors<sup>10</sup>.

Hundreds of thousands of Australians annually are supported to get back to work after car accidents, why not stroke?

Ready for work will empower and equip Australia's working-age stroke survivors with the skills and support they need to actively engage with the community and optimally, to return to work.

It will deliver:

- › Online training resources supporting health professionals to respond to the specific needs of working-age stroke survivors.
- › Targeted resources to empower working-age stroke survivors and their families to live well after stroke.
- › Specialised resources and individualised support for stroke survivors and their employers to aid a return to the workplace.

Recovery from stroke can be a long and challenging journey that can last a lifetime. It is a journey no survivor and their family should be left to navigate alone.



**Husband and father of two Paul Fink** was 34 when he suffered a stroke, which affected his speech and caused paralysis of his right leg and arm. Before his stroke, Paul had worked for 10 years as an accountant and IT professional. More than four years after his stroke, Paul is continuing his recovery and has not returned to work.

"Rehab was not only about improving my physical and mental abilities, it was also crucial in my overall relationship with my wife, as I could help care for my son independently, freeing up her time to do other things," said Paul.

Stroke Foundation is partnering with the Australian Government to deliver the \$1 million 'Return to life, return to work' clinical research grants for 2019.

Funded through the Medical Research Future Fund, Australia's working-age stroke survivors are set to benefit from this research into innovative recovery and rehabilitation clinical interventions.

# Champion research

## Living Evidence Platform

**Objective:** Develop a platform to rapidly translate research evidence into clinical practice and policy.

**Investment:** \$5 million over four years.

'Living evidence' is an innovative approach utilising the latest in technology, artificial intelligence, citizen science and peer review to transform translation of research into best-practice guidelines.

Pioneered here in Australia and rapidly gaining international momentum, 'living evidence' is a next generation solution benefiting patients, health professionals and the health system.

Stroke Foundation has joined Cochrane Australia, and other leading experts in evidence synthesis, guideline development, automation technologies, data analytics and knowledge translation to build a system for reliable, accessible, up-to-date evidence in health.

Every Australian deserves healthcare based on the best available evidence.

Evidence based guidelines are key to delivering safe, effective, high quality and consistent healthcare practices and policies.

Research breakthroughs are coming all the time, the challenge now is translating the results of this research into benefits for real Australians.

- › One research paper is published every minute, and 75 trials and 11 systematic reviews are published every day<sup>11</sup>.
- › Five years is the current time on average it takes to translate clinical research into practice.
- › Inability of guidelines to keep up-to-date with the latest research erodes clinician uptake, and hampers knowledge translation and quality improvement efforts, to the detriment of patients.
- › Inability to access guidelines has been identified by clinicians as a key barrier to their implementation, particularly in rural and regional areas<sup>12,13</sup>.



"As a health professional and stroke survivor I understand only too well how important it is to support research into stroke and the significant impact it has on people's lives. I was 41 years old when I had my stroke. I believe if it had not been for the expertise of the team at the stroke unit my recovery would have been greatly impaired. It was research that provided evidence that dedicated stroke units save lives and reduces disability. More research is needed into improving the quality of life post stroke for survivors."

– **Brenda Booth, stroke survivor.**



# Champion research

## Helping childhood stroke survivors grow and thrive

**Objective:** Make the path ahead easier and improve outcomes for some of our youngest stroke survivors and their families.

**Investment required:** \$4.3 million over four years.

Around 500 strokes are suffered by Australian children each year<sup>14</sup>. Childhood stroke is one of the top ten causes of death of children and 50 percent of childhood stroke survivors will have long term impairment.

There is so much about childhood stroke we don't know. Parents will struggle to understand how stroke could strike their child, let alone navigate the treatment and recovery journey.

The recovery journey can be hard, and it literally lasts a lifetime for many families. As the child impacted grows, the challenges change. Stroke can impact every element of family life and the strain emotionally and financially is significant. It changes relationships and lives.

Specialist stroke treatment, supports and research are critical to families in crisis. They are critical to ensuring children and families impacted by stroke have a fair go at life after stroke.

An Australian first, this project will include:

- › **Living guidelines for childhood stroke** – Cutting-edge delivery of health evidence and translation strengthening health systems and improving outcomes for Australians impacted by childhood stroke.
- › **Childhood stroke clinical registry** – Grow our understanding of childhood stroke and drive clinical improvement. In addition to recording information on children in hospital, the registry will follow-up with families, recording data as children grow and develop, laying a solid foundation for research and care improvement into the future.
- › **Childhood stroke coordinators** – Childhood stroke coordinators at our major children's hospitals will deliver families a partner to set goals and navigate the recovery journey with.
- › **Our Family's Stroke Journey** – the first ever guide for Australian families impacted by childhood stroke, *Our Family's Stroke Journey*, developed by Stroke Foundation in partnership with Little Stroke Warriors, will reach the families who need it most.



**Mums Kylie Facer and Dee Banks, whose daughters Anika and Emma (pictured left) are childhood stroke survivors, established the Little Stroke Warriors organisation to help other parents just like them. The Little Stroke Warriors motto is "be fierce, be brave, be mighty". Kylie and Dee are working tirelessly to ensure other parents don't leave hospital scratching their heads in confusion, having to turn to "Dr Google" in desperation for answers like they did.**





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# Five stroke facts







- › Stroke kills more women than breast cancer and more men than prostate cancer.
- › One in four people will have a stroke in their lifetime.
- › In 2017 an estimated 56,000 strokes occurred – one every nine minutes.
- › One in three stroke survivors are of working age.
- › Sixty-five percent of those living with stroke also suffer a disability that impedes their ability to carry out daily living activities unassisted.

## About the Stroke Foundation

The Stroke Foundation is a national charity that partners with the community to prevent, treat and beat stroke. We stand alongside stroke survivors and their families, healthcare professionals and researchers. We build community awareness and foster new thinking. We support survivors on their journey to live the best possible life after stroke.



### How to get more involved

-  **Give time** – become a volunteer.
-  **Raise funds** – donate or hold a fundraising event.
-  **Speak up** – join our advocacy team.
-  **Leave a lasting legacy** – include a gift in your Will.
-  **Know your numbers** – check your health regularly.
-  **Stay informed** – keep up-to-date and share our message.

### Contact us

-  **03 9670 1000**
-  **[strokefoundation.org.au](http://strokefoundation.org.au)**
-  **[/strokefoundation](https://www.facebook.com/strokefoundation)**
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