

About Stroke Foundation

Stroke Foundation is a national charity that partners with the community to prevent, treat and beat stroke.

We stand alongside survivors of stroke and their families, healthcare professionals and researchers. We build community awareness and foster new thinking and innovative treatments. We support survivors on their journey to live the best possible life after stroke. We are the trusted voice of stroke in Australia, and we work to:

- > Raise awareness of the risk factors and signs of stroke, and promote healthy lifestyles.
- > Improve treatment for stroke to save lives and reduce disability.
- > Improve life after stroke for survivors.
- > Encourage and facilitate stroke research.
- Advocate for initiatives to prevent, treat and beat stroke.
- > Raise funds from the community, corporate sector and government to continue our mission.

Our work aligns with three key pillars, Prevention, Treatment and Recovery, as outlined in our strategic plan, Stroke Strategy 2024.

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Introduction

In 2020, 172 Territorians experienced stroke for the first time, and there were 2,545 survivors of stroke living in our community – many with an ongoing disability. Unless action is taken, it is estimated by 2050, Territorians will experience an additional 129 new strokes annually, and there will be an additional 2,158 survivors of stroke living in the community.

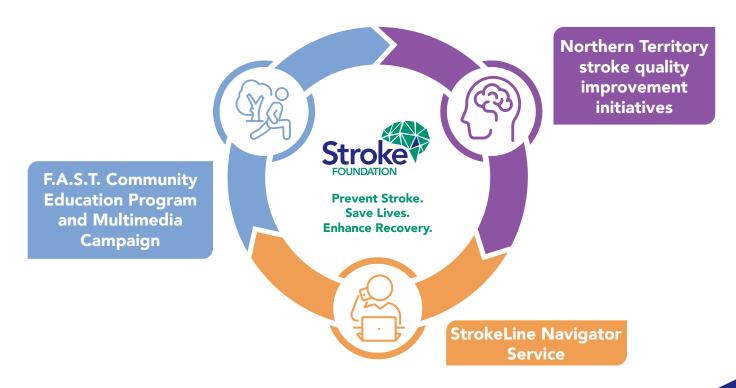
The Northern Territory has the highest proportion of Aboriginal residents among its population – an estimated 32 percent (79,000 people). Importantly, stroke occurs more commonly, and at younger ages, in Aboriginal than non-Aboriginal Australians. Aboriginal Australians are also 1.7 times more likely to be hospitalised for stroke, and 1.6 times more likely to die from stroke, as non-Aboriginal Australians.

One of the key modifiable risk factors for stroke is high blood pressure. Notably, more than 31,000 Territorians are living with high blood pressure,¹ and many don't know it. In addition, 36,600 Territorians are daily smokers, 14,400 have high cholesterol, 36,900 are physically inactive, and 122,200 are overweight or obese¹ – putting them at an increased risk of stroke.

Stroke Foundation has identified the three key initiatives that need to be implemented in order to prevent, treat and beat stroke in the Northern Territory. We have developed highly effective, evidence-based programs that will ensure Territorians know how to reduce their risk of preventable stroke, recognise the F.A.S.T. signs of stroke to reach hospital in time to receive world-class, best-practice stroke treatment and care, and are able to successfully transition from hospital to home and onto recovery to live the best possible life after stroke (Figure 1).

Northern Territory Government investment in the F.A.S.T. Community Education Program and Multimedia Campaign and StrokeLine Navigator Service, will strengthen stroke prevention, treatment and recovery, and ensure more Territorians are able to avoid, survive, and recover from stroke. Territory Government investment in stroke quality improvement initiatives is also critical, to ensure stroke clinicians in the Territory have the knowledge and tools they need to deliver best-practice, evidence-based stroke treatment and care.

Figure 1. The three key initiatives for preventing, treating and beating stroke in the Northern Territory



Summary of key budget proposals

Proposal	Investment	Page
Prevention: Fewer preventable strokes in the Northern Territory		
F.A.S.T. (Face, Arms, Speech, Time) Community Education Program and Multimedia Campaign. Ensure more Territorians know how to reduce their stroke risk, and recognise the signs of stroke.	\$105,000 p.a. (over four years)	6
Treatment: Ensure all Territorians have access to evidence-based stroke treatment		
Northern Territory stroke quality improvement initiatives. Territory Government investment in initiatives that support a Northern Territory Stroke Learning Health System, to ensure stroke clinicians in the Territory have the knowledge and tools they need to improve the quality, safety, and effectiveness of stroke treatment and care.	Within existing resources	9
Recovery: Enhance recovery to help Territorians achieve better outcomes after stroke		
StrokeLine Navigator Service. Facilitate improved continuity of care, and ensure survivors of stroke in the Territory are connected to the services, supports, and information they need to achieve their best possible recovery and avoid hospital readmission.	\$20,000 p.a. (over four years)	12

Fewer preventable strokes in the Northern Territory

Eighty percent of strokes can be prevented,⁵ and stroke prevention remains the most effective means of reducing the burden of stroke in the Northern Territory.

Importantly, we know that many preventive health interventions are cost-effective, and for every dollar invested in prevention there is a \$14 return.6

Stroke Foundation is committed to reducing the number of preventable strokes in our community, by empowering more Territorians to recognise the risk factors for stroke that can be changed, and in doing so increase their chances of preventing stroke. Specifically, our goal is to ensure that by 2024, 65 percent of adult Territorians will know the stroke risks they can change.

Stroke Foundation delivers campaigns and programs to raise awareness of important modifiable risk factors for stroke such as high blood pressure. Stroke Foundation's annual 'Australia's Biggest Blood Pressure Check (ABBPC)' campaign raises public awareness of the link between high blood pressure and stroke, and empowers Australians to know their stroke risk and understand how to manage it by getting a free health check at a pharmacy or with their general practitioner. Since the beginning of ABBPC in 2014, over one million Australians have received a free health check.

Stroke Foundation's StrokeSafe Speaker program, which is funded internally, and through contributions from our donors, delivers presentations across Australia to community groups, workplaces, and as part of special events. Talks are delivered by trained volunteers to raise awareness of what stroke is, how to reduce stroke risk, and how to recognise the signs of stroke (using the F.A.S.T. test).

Territorians have received life-saving messages about stroke through these presentations, delivered by volunteer speakers who have had a stroke themselves or are close to someone who has. StrokeSafe presentations are a key component of Stroke Foundation's highly effective F.A.S.T. Community Education Program, that is currently being delivered in Tasmania, Western Australia, New South Wales and the Australian Capital Territory, with funding from governments in each of these jurisdictions. In these jurisdictions, where governments provide funding, we are able to train more StrokeSafe speakers, deliver more presentations, and reach a greater number of people in the community.

Stroke Foundation has also developed a behaviour modification program aimed at secondary stroke prevention, called *Living Well After Stroke*. Following a successful national pilot that has demonstrated changed behaviours amongst participants, this program is currently being delivered in Tasmania with funding from the State Government and is delivering great results.

We are calling on the Northern Territory
Government to invest in Stroke Foundation's
evidence-based F.A.S.T. (Face, Arms, Speech, Time)
Community Education Program and Multimedia
Campaign, to reduce the number of preventable
strokes in our community, and ensure more
Territorians know the life-saving F.A.S.T. signs
of stroke.

F.A.S.T. (Face, Arms, Speech, Time) Community Education Program and Multimedia Campaign

Investment: \$105,000 per annum over four years.

We know that the Northern Territory Government is committed to building healthier communities. Stoke Foundation's F.A.S.T. (Face, Arms, Speech, Time) Community Education Program and Multimedia Campaign will help the Northern Territory Government to deliver on a strategic goal of its Strengthening Our Health System Strategy (2020 – 2025), which is to empower people and communities to actively engage in their healthcare journey, and ensure wellbeing promotion and illness prevention is driven by communities.

F.A.S.T. education campaigns are proven to increase awareness of the signs of stroke, and calls to emergency services, nationally⁷ and internationally.^{8,9} Furthermore, in Tasmania, where the State Government has been funding the F.A.S.T. Community Education Program for five years, the unprompted community awareness of the F.A.S.T. signs of stroke has grown to be significantly higher than in all other states and territories.¹⁰

The rationale

Stroke is a medical emergency, and faster diagnosis and treatment saves lives and results in improved quality of life. When someone suffers a stroke, every minute counts. F.A.S.T. access to treatment means a greater chance of recovery and decreased costs for our health system.

Importantly, only 33 percent of Territorian stroke patients arrive at hospital within the 4.5-hour window for clot-dissolving treatment (thrombolysis). There is a clear lack of awareness in the Northern Territory community about stroke and the need for it to be treated as a medical emergency. We know that stroke occurs more commonly, and at younger ages, in Aboriginal than non-Aboriginal Australians. Aboriginal Australians are also 1.7 times more likely to be hospitalised for stroke, and 1.6 times more likely to die from stroke, as non-Aboriginal Australians.

The 2023 Stroke Foundation F.A.S.T. Signs and Stroke Awareness Survey reported on the unprompted awareness of the F.A.S.T. signs of stroke in the Northern Territory community, and showed that 54 percent knew speech difficulties were a sign, 28 percent knew facial drooping was a sign, and 15 percent knew an inability to lift both arms was a sign.¹⁰

It is critical Territorians understand that if they or someone they know experience the signs of stroke, including facial drooping, arm weakness, or speech changes, they must call triple zero (000) immediately. The partnership between the Northern Territory Government and the South Australian Telestroke Service is ensuring Territorians have 24/7 access to stroke specialists, so it is essential they know the F.A.S.T. message.

The program

Stroke Foundation's F.A.S.T. (Face, Arms, Speech, and Time) Community Education Program establishes awareness and increases people's knowledge of the signs of stroke. We recruit, train, and provide support to local volunteers to raise awareness in the community about stroke, including the signs of stroke, and the prevention of chronic conditions, through the delivery of StrokeSafe presentations. Through the compelling voice of those impacted by stroke, we increase knowledge and help to ensure patients get to hospital in the critical time window for life-saving stroke treatment.

In addition to delivering StrokeSafe presentations, volunteers will set up displays and activities at community events and in health settings, distribute F.A.S.T. resources (including bookmarks, fridge magnets, wallet cards, posters, and 'Understand and Prevent Stroke' booklets), and gain local workplace support, which will facilitate improved awareness about the signs of stroke and dispatches of ambulances.

A F.A.S.T. Multimedia Campaign will be rolled out across the Territory, which will include an integrated multi-channel advertising campaign, as well as F.A.S.T. stories delivered via a mainstream media campaign.

Stroke Foundation has been undertaking consultations with Aboriginal communities in the Territory, and awareness of stroke in these communities is very low. We know from initial consultations that for some Aboriginal Territorians, English is not their first language, and the spoken word and use of images or animation may be more appropriate than written content. Further consultations will be needed to determine how the F.A.S.T. message can be adapted to maximise its effectiveness in these communities.

We are calling on the Northern Territory
Government to invest in Stroke Foundation's
F.A.S.T. Community Education Program and
Multimedia Campaign, which will increase
awareness of what stroke is, how to reduce stroke
risk, and how to recognise the F.A.S.T. signs of
stroke, in the Northern Territory community. It will
also strengthen and maximise existing Northern
Territory Government initiatives, such as the
partnership with the South Australian Telestroke
Service. This is saving lives, enabling clinicians
at the Royal Darwin Hospital and Alice Springs
Hospital to connect with Adelaide-based stroke
specialists via videoconference, to provide fast
consultations for patients with suspected stroke.



Eddie's Story

Eddie was 49 when he suffered a stroke.

He was at home when he began to experience the telltale F.A.S.T. (Face, Arms, Speech and Time) signs of stroke.

"I went to stand up and felt light-headed. I noticed I couldn't raise my left arm. I tried to get up again, but my legs collapsed from underneath me," said Eddie.

Thankfully, Eddie's wife Caroline was at home at the time. She had participated in a first aid course at work only the day before, where she had learnt about the signs of stroke. She knew what to do, kept Eddie calm, and called triple zero (000).

"I have no doubt she saved my life, if not my life, she was able to greatly improve my quality of life by getting me the help I needed quickly," said Eddie.

"I didn't realise younger people had strokes, but the reality is, they can happen to anyone, at any time," said Eddie.

Eddie says he's fighting stroke by facing challenges he once thought impossible.

"Being back at work was a big achievement of mine. It's been really great to have some independence."

"My next goal is to make it to the top of Mount Wellington. That would be the pinnacle of my recovery journey."



Ensure all Territorians have access to evidence-based stroke treatment

Stroke is a medical emergency, requiring urgent medical attention; however, with the right treatment at the right time, many people can recover from stroke. 'Time is brain' stroke treatments, including thrombolysis (clot-dissolving treatment) and endovascular thrombectomy (blood clot removal treatment), are saving lives and reducing disability in survivors of stroke.

Modelling commissioned by Stroke Foundation, and undertaken by Deloitte Access Economics, has shown that if the endovascular thrombectomy rate in the Australian population was increased from its current rate of 3 percent to a target rate of 10 percent, the potential savings from meeting this benchmark in 2020 were estimated to be \$455 million over five years (in net present value terms).¹²

An increase in the endovascular thrombectomy rate would mean more patients who might otherwise require a lifetime of disability support being able to live independently, return to work, and resume social and community participation. These benefits and the accompanying cost savings would accrue to individual survivors of stroke and their families and carers, as well as federal and state and territory governments, employers, and society more broadly.¹²

Endovascular thrombectomy is a highly effective treatment with evidence of benefit in selected patients with large vessel occlusion, ¹³ but it requires highly specialised teams, and is restricted to comprehensive stroke centres. Notably, there are currently no endovascular thrombectomy-capable centres in the Northern Territory, and eligible patients are transported to Adelaide for treatment. Thrombolysis treatment is provided to 9 percent of all reported ischaemic stroke patients in the Northern Territory. ¹¹

Building on time-critical treatment, access to stroke unit care, characterised by provision of care in one location by a multidisciplinary team including medical, nursing and allied health professionals with expertise in stroke, is proven to make the biggest difference to patient outcomes following stroke, both in hospital and after.^{14, 15} Importantly, only 41 percent of Northern Territory stroke patients are able to access stroke unit care.¹¹ More work needs to be done to improve access to stroke unit care in the Territory.

The Australian Stroke Coalition (ASC), co-chaired by Stroke Foundation and the Australian and New Zealand Stroke Organisation, has developed a voluntary system for certification of stroke units in Australian hospitals, which has now been piloted. One Northern Territory hospital, Alice Springs Hospital, was successful in achieving certification during this pilot. The ASC Stroke Unit Certification Program is now an ongoing initiative, with the goal of certifying all centres providing stroke care in Australia by 2030.

More needs to be done to improve processes of care in the Northern Territory. Improving the quality of stroke treatment and care provided in Northern Territory hospitals is critical to reducing the burden of stroke on survivors, their families and carers, and our community and health system. A Learning Health System (LHS), involving ongoing cyclical processes, where practice is turned into data, which is then analysed to generate new knowledge, which in turn is implemented into practice, has been identified as an important element in improving the quality, safety and efficiency of care. ¹⁶ Knowledge of performance is critical to identifying gaps in care and to helping prioritise quality improvement activities. ¹⁷ In the case of a Stroke LHS, it is critical that ¹⁷:

- all acute and rehabilitation stroke services routinely monitor care by collecting national acute stroke quality of care indicators, and/or agreed rehabilitation indicators
- stroke services quality committees regularly review stroke data dashboards that monitor near real time performance
- stroke services compare their performance with national benchmarks and actively drive improvement.

Territory Government investment in these key elements of a Stroke LHS is critical to ensuring Northern Territory stroke clinicians have the knowledge and tools they need to improve the quality, safety, and effectiveness of stroke care provided, leading to better health outcomes for patients, and a subsequent reduction in the burden of stroke on our health system and community.

Stroke Foundation is committed to supporting hospitals and health professionals to strengthen their capabilities in the delivery of best-practice, evidence-based stroke treatment and care, and have developed *StrokeLink*, a stroke quality improvement program focused on closing the gap between guidelines and practice. This program has been supporting hospitals across Queensland since 2007, with funding from the Queensland Government, and has contributed to substantial improvements in the delivery of best-practice stroke treatment and care. ^{18, 19}

Whether delivered by the Territory Government, or by sector partners such as Stroke Foundation (through our evidence-based *StrokeLink* program), government investment in quality improvement initiatives is essential.

Northern Territory stroke clinicians also benefit from a variety of Stroke Foundation resources and initiatives which are designed to support them to improve the quality of stroke treatment and care, and are provided thanks largely to the generous support of Stroke Foundation donors and partners. These include:

The National Stroke Audit, which commenced in 2007, and provides longitudinal data on the clinical performance of Australian hospitals. Data is provided in an accessible format to help hospitals identify where improvements are required, lobby for change and celebrate

- > Clinical Guidelines for Stroke Management, which provide recommendations for bestpractice stroke treatment and care, based on the latest research. Technology and processes developed and piloted during a federal government funded research project have enabled the Guidelines to evolve into a 'living' model, where individual recommendations are updated as soon as new relevant evidence becomes available.
- InformMe, Stroke Foundation's dedicated website for health professionals working in stroke treatment and care, which in addition to housing the Clinical Guidelines for Stroke Management and National Stroke Audit data, includes over 50 e-Learning professional development modules covering a wide variety of topics.
- The National Webinar Series, which provides web-based education on a range of topics for health professionals working in stroke treatment and care across Australia, including in regional and remote areas. Over 90 percent of clinicians who participated in the webinars reported feeling more confident in identifying their current practice gaps after the sessions.

We are calling on the Northern Territory Government to invest in stroke quality improvement initiatives, ensuring Northern Territory stroke clinicians have the knowledge and tools they need to improve the quality, safety, and effectiveness of stroke care provided, leading to better health outcomes for patients in the Territory.



Enhance recovery to help Territorians achieve better outcomes after stroke

The impact of stroke is far reaching, and well beyond discharge from hospital a significant proportion of survivors of stroke have yet to make a full recovery. Many survivors speak of falling into a 'black hole' once they are discharged from hospital. The often profound and prolonged brain injury resulting from stroke can severely impact a survivor's ability to navigate an often-complex health and welfare system. This can add time and frustration to their recovery, and lead to poorer health outcomes, and hospital readmissions.

Continuity of care is an issue for survivors of stroke once discharged from hospital, and one of the major challenges to improving continuity of care is inconsistent discharge planning from the hospital system.

Importantly, 40 percent of survivors of stroke in the Northern Territory are discharged from hospital without a discharge care plan. 11 As a result, they and their families and carers often do not receive critical information on secondary prevention, follow-up, rehabilitation, and relevant supports and services which exist in the community.

Stroke Foundation is committed to reaching out to those impacted by stroke to ensure more Territorians can connect with and access trustworthy information, resources, and post-stroke support. Specifically, our goal is to ensure that by 2024, 85 percent of Territorians will be connected to Stroke Foundation and enabled to navigate the ongoing support they need to achieve better outcomes after stroke.

Territorians benefit from Stroke Foundation's suite of resources and services which are designed to support survivors of stroke, their families and carers following discharge from hospital, and are provided thanks to the generous support of Stroke Foundation donors and partners. These include:

EnableMe, Stroke Foundation's recovery website, which has been co-designed with survivors of stroke and carers. This provides videos, podcasts and fact sheets on a wide range of topics impacting daily life after stroke, a community forum to ask questions and share experiences, a tool to set and track personal

- goals for recovery, and an online helpdesk to ask questions of Stroke Foundation health professionals. In 2022, over 76,000 survivors of stroke, their families, carers and health professionals, accessed 330,000 pages of information through *EnableMe*.
- My Stroke Journey, a resource delivered by our hospital partners in the first few days after a person's stroke, which is used throughout their admission in education and care planning. This free resource also supports the transition from hospital to the community, and includes information on preparing for discharge and available supports and services. In 2022, 163 hospitals delivered this resource to almost 25,000 Australians. My Stroke Journey is now a suite of resources, with versions available in both standard and easy English, and for Aboriginal and Torres Strait Islander peoples, and parents and carers of children who have had a stroke.
- StrokeLine, a service that provides free expert information, advice, support and referral on stroke prevention, treatment and recovery to the general public and to survivors of stroke, their families, and carers. StrokeLine delivers services via telephone, email, social media and EnableMe, and aims to equip people to take action as required; however, if the individual contacting the service is vulnerable or at risk, StrokeLine's health professionals coordinate their care and follow-up as needed.

We are calling on the Northern Territory Government to invest in our digitally enabled StrokeLine Navigator Service, which will mean more Northern Territory survivors of stroke, their families, and carers will be able to access the information, advice, support, referral, and care coordination they need to achieve their best possible recovery.

StrokeLine Navigator Service

Investment: \$20,000 per annum over four years.

We know that improving continuity of care for patients across the primary, community, acute and aged care sectors is a key priority for the Northern Territory Government. Stoke Foundation's *StrokeLine Navigator Service* will help the Northern Territory Government to deliver on a strategic goal of its *Strengthening Our Health System Strategy (2020 – 2025)*, which is to develop services that assist in hospital avoidance and enable care in the community.

The rationale

In the Northern Territory, 40 percent of survivors of stroke leave hospital without a discharge care plan, and 67 percent leave hospital without education on how to avoid another stroke through behaviour change for modifiable risk factors. ¹¹ This leaves many survivors of stroke unable to achieve their best possible recovery, manage their health, and achieve better outcomes after stroke.

We know there is unfulfilled demand for services from survivors of stroke who cannot easily navigate the health system after leaving hospital. In the last two years, there has been an increase in the complexity of calls into our StrokeLine information and support helpline. Specifically, there are an increasing number of vulnerable survivors calling StrokeLine for advice and support, who in addition to trying to manage the consequences of their stroke, are also facing challenges with issues such as homelessness and social isolation. This highlights a clear need for Territory Government investment in a service that reaches out to all Territorians impacted by stroke, and their families and carers, after their return home from hospital, and ensures survivors of stroke have a smooth transition from hospital into the community. This service will facilitate improved continuity of care, and ensure survivors are connected to the appropriate services and supports, and have the information they need to achieve their best possible recovery and avoid hospital readmission due to complications or recurrent stroke. This is particularly important for vulnerable survivors, and those with poor outcomes following their stroke.

The service

Stroke Foundation's **StrokeLine Navigator Service** will ensure every survivor of stroke in the Northern Territory is contacted following their discharge from hospital, and provided with the appropriate level of information and support. In order to make certain no survivor falls through the cracks, we will work with NT Health to ensure the appropriate notification systems are in place, and Stroke Foundation is automatically notified each time a survivor of stroke is discharged from hospital. Survivors will be able to opt out of referral to the service if they so choose.

The service will facilitate care coordination, including referrals to other service providers and outpatient appointments, as well as improved survivor knowledge, self-efficacy, health literacy and social connection. It will also be focused on reducing the burden on family members and carers and improving their quality of life and wellbeing.

This will be a personalised, two-tier service, depending on the participant's level of need:

- For those at low risk of hospital readmission and poor physical, social, and mental health outcomes, there will be two 'lighter touch' options:
 - A tailored, self-directed digital solution.
 - A peer support solution, where survivors of stroke are matched in a structured, supportive relationship with a trained, more experienced survivor of stroke peer mentor. Interactions will be either face-to-face, online, and/or by phone, depending on individual preferences.
- > For those at medium to high risk of hospital readmission and poor physical, social, and mental health outcomes, there will be an intensive, health professional-led solution.

While some participants may only require one consultation with the service, others may require one or more follow-up consultations, depending on the complexity of their needs.

The Navigators who will be responsible for delivering the service day-to-day will be a mix of nurses and allied health professionals such as occupational therapists, social workers, physiotherapists, and speech pathologists. As we have learned through the many years of delivering the StrokeLine service, it is critical all Navigators understand stroke and the stroke support service network, to connect survivors with the supports they need.

We are calling on the Northern Territory Government to invest in the StrokeLine Navigator Service, which will ensure more Territorians, regardless of where they live, are supported to manage their stroke recovery, achieve better outcomes, return to work (where possible), and resume social and community participation. This will have benefits for survivors of stroke, their families and carers, and our community, as well as the NT health system and economy.



Bertha's Story

Bertha was 72 when she suffered a stroke.

After spending 2 weeks in inpatient rehabilitation following her discharge from hospital, she returned home, and was contacted by Stroke Foundation's StrokeLine Navigator Service.

During the initial phone call, Bertha told the Navigator health professional that she was finding it incredibly difficult to find services to support her with the ongoing impact of her stroke now that she was home. In particular, she needed assistance accessing occupational therapy, physiotherapy, and home help services, information and resources on vision loss, as well as some support to be able to go for a walk.

The Navigator health professional listened to Bertha's concerns, and provided her with information about stroke and stroke risk factors, as well as services to contact for support. Bertha was also encouraged to follow up with services she was still waiting to hear from.

Specifically, the Navigator health professional informed her that she could access a Mental Health Care plan through her GP if she felt she needed mental health support, and also encouraged her to contact Centrelink to discuss financial support that she may be eligible for due to the ongoing impact of her stroke.



Once the initial call was complete, the Navigator health professional looked into further supports and services that might be available to Bertha in her local area.

The StrokeLine Navigator Service contacted Bertha again the following week, and she confirmed that she had success in accessing some of the resources and supports she required.

The Navigator health professional then provided Bertha with further resources and information via email, which included general information on stroke, resources to support her to manage her vision loss including the Stroke Foundation 'Vison Loss After Stroke' fact sheet and information on Guide Dogs Australia, as well as information on occupational therapy and physiotherapy services available in her local area.

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How to get more involved

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