Research to prevent, treat and beat stroke

strokefoundation.org.au
Message from the CEO and Chair of the Research Advisory Committee

As the voice of stroke in Australia we play a vital role in supporting Australian researchers as they work towards the next innovation in stroke prevention, treatment and rehabilitation.

Stroke is a largely preventable and treatable disease yet across the globe the incidence of stroke continues to increase. Over the past two decades advancements in the diagnosis and treatment of acute stroke have led to a significant reduction in the lives lost to this disease. Stroke may no longer be a death sentence but for the 450,000 Australians living with stroke in the community its impact is far reaching.

With around 30 percent of stroke survivors under 65 years of age stroke is not only a major health issue for Australia, it is a significant economic challenge. Much more can be done to prevent stroke and to support survivors to make the best recovery possible.

The Stroke Foundation’s research grant program supports early and mid-career researchers to grow our knowledge about stroke. The program provides a platform for these clinicians and allied health professionals to explore their research questions and follow research as a career path. It supports participants to test their concepts and provides pilot data to help justify further investigation and, thereby, assist in securing larger research grants to drive better patient outcomes.

Since 2008 we have awarded nearly $3 million in research grants to more than 190 researchers and the demand for research funding continues to increase. Each year we are impressed by the extraordinary quality and diversity of research being undertaken with support from the Stroke Foundation. Our focus on research that translates into real world practice enables our supporters to see the impact of their commitment to a better future for stroke survivors and their families.

We also partner with hospitals, research and other major organisations to fund multi-disciplinary national and international research that has proved ground-breaking in stroke. We are proud our research grant program contributed support to one of the most significant advances in acute ischaemic stroke treatment – endovascular clot retrieval.

This is just one of the many grant projects showcased in this publication which highlights some of the impressive work by researchers who have received grants from the Stroke Foundation to further knowledge and improve outcomes for patients. Now, more than ever, we need your support to fund critical new research to help stop stroke, save lives and end suffering.

Sharon McGowan
Chief Executive Officer

Prof. Amanda Thrift
Chair, Research Advisory Committee
“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 was very fortunate that with prompt treatment I made a good recovery. 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; thankfully the Stroke Foundation continues to support researchers working in this important area.”

Brenda Booth, survivor 56.
Research program

The Stroke Foundation’s research program aims to support and translate high quality research into changes in practice, policy and knowledge to prevent stroke and improve quality of life for stroke survivors, their families and their carers.

Research sits at the heart of Stroke Foundation and it drives our programs and activities. Our National Research Framework outlines the organisation’s goals in this area and how we’re going to achieve them.

Areas of focus include:

› Using data, program evaluation and monitoring to improve what we do and build the evidence-base to inform all our activities across the organisation.

› Translating evidence-based research into practice through policy, advocacy and establishing guidelines for stroke prevention, treatment and rehabilitation.

› Leveraging Stroke Foundation research grants by investing in research capacity to generate new knowledge.

› Attracting funding from the community, corporate sector and government to support stroke research activity.

› Building sustainable national systems and infrastructure to support research strategies.

A key element of the program is the annual National Stroke Audit. Conducted since 2007 the Audit benchmarks the delivery of stroke care throughout Australia against best-practice guidelines. Each year the Audit alternates between evaluating data on acute stroke care and data on rehabilitation services. The Audit gives valuable insights to clinicians, health administrators and government that drives change by highlighting strengths and weaknesses in current stroke services.
In 2014, Stroke Foundation reviewed its research strategy to better understand how we could best influence evidence-based outcomes for stroke through research. We aimed to ensure our efforts were focused where they would have the greatest impact. As a result new priorities were agreed to address gaps in knowledge and meet priority needs for stroke care.

### History

Research has been a cornerstone of the Stroke Foundation since its inception.

In 1983 the organisation was first established as the Stroke Research Foundation and later became the Australian Stroke and Neurosciences Institute with its dedicated research arm, the National Stroke Research Institute. In 1996 stroke was identified as the priority area of need - the organisation became the Stroke Foundation.

Over the years, thanks to the generous support of the community, our research program has grown to provide more than $400,000 per annum to approximately 30 grant recipients.

The graph below shows the number and type of grants awarded by the Stroke Foundation from 2008 until 2016.

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<th>Number and value of grants by type</th>
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Why we fund stroke research

Stroke is one of Australia’s biggest killers after coronary heart disease and dementia and is a leading cause of disability.\(^1\) In 2012 stroke cost the Australian economy approximately $5 million per annum\(^2\), a staggering figure set to grow as stroke survivor numbers are estimated to surge past 700,000 by 2032.\(^3\)

Although stroke is a largely preventable disease with known risk factors a cause cannot be identified for up to one-third of strokes.\(^4\) In addition the evidence base for many stroke recovery and rehabilitation interventions lags behind the equivalent treatment pathways in acute stroke. With many more people surviving stroke it is critical to establish the causes of stroke to prevent recurrence. For patients and families affected by stroke it is vital we gain a better understanding of the interventions which will enable stroke patients to make their best recovery possible.

Despite the shocking statistics and devastating impact of stroke on the Australian community stroke-related research is under-represented nationally in Federal Government funding support.

In 2015 funding for stroke research by the Federal Government through the National Health & Medical Research Council (NHMRC) represented just 4.1 percent\(^5\) of the total investment in medical research [Figure 1], lagging significantly behind funding for research into other chronic diseases such as cancer (21.5%) and heart and other cardiovascular conditions (13.6%).\(^6\)

With the number of strokes estimated to increase to 132,600\(^7\) per year by 2050 there is a critical need for increased funding for research projects into stroke.

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Figure 1: National Health & Medical Research Council annual expenditure
Applications for Stroke Foundation research grants are highly competitive. Demand for grants is increasing and there is significant opportunity for increased investment in worthwhile projects should funding be available.
Stroke Foundation Research Program

Since its inception the Stroke Foundation Research Grant Program has focused on providing a platform for young and mid-career researchers to expand their knowledge and drive improvements in stroke treatment and recovery.

The Program is overseen by the Stroke Foundation Research Advisory Committee of the Board chaired by a special interest research member of the Stroke Foundation Board of Directors. The Committee includes experienced researchers from across Australia who volunteer their time to drive improvements in stroke understanding.

Major priorities of the program, identified by the Committee are:

› Transition of patients from the acute care setting to home.
› Management of bodily function - particularly in the acute phase.
› Recognition and management of fatigue in stroke survivors.
› Improving delivery of high quality clinical stroke care.
› Technology-related rehabilitation activity.
› Stroke carer support and interventions.

These priorities were determined by the Committee as they were areas where there was:

› Insufficient knowledge/evidence-base as identified in the Clinical Guidelines for Stroke Management 2010.
› Gaps in implementation or current practice as identified in the National Stroke Audit and other data sources.

› Applicability of results to impact areas of greatest opportunity or need for consumers, health professionals and researchers.

Type of grants

The annual research program currently offers grants in three categories;

› **Future Leader Grants**: one-off grants of up to $10,000 for early-to mid-career researchers to enable leadership training and formal mentoring.
› **Small Project Grants**: single-year grants of up to $20,000 for early career researchers to conduct innovative pilot studies or projects in the key impact areas.
› **Seed Grants**: one-year grants of up to $50,000 for mid-career researchers to conduct pilot or feasibility studies that will inform a larger, nationally competitive grant submissions to the National Health and Medical Research Council (NHMRC) and other granting bodies (e.g. Australian Research Council).

Applications undergo a competitive assessment, which includes assessment by a panel of some 90 independent peer reviewers. This panel represents some of the leading minds in research across the stroke prevention, treatment and support spectrum.

This publication showcases a sample of the successful recipients of the annual grants, the full list of grant recipients and research project funded is available here on the Stroke Foundation website.
Partnership Grants

The Stroke Foundation regularly partners with a range of organisations to fund larger research projects and ground-breaking initiatives in stroke. These multi-disciplinary research projects are vitally important as they significantly impact the direction and delivery of health care in Australia.

Stroke 123

One such project, Stroke 123, was designed to evaluate the benefits of providing clinicians with integrated, high quality stroke data coupled with an evidence-based clinical quality improvement program to help support better quality of stroke care in hospitals.

This national partnership project is already providing essential information to help develop national solutions for stroke data collection and reduce variability in patient care. The findings from this four-year project will also play a major role in determining strategic directions in Australia’s health care policies, clinical practice and health research priorities.

Stroke123 was funded by a $1,261,292 Partnerships for Better Health grant from NHMRC and partner organisations including the University of Melbourne, the Stroke Foundation, The George Institute for Global Health, Stroke Society of Australasia and state government health departments around the country.

Mobile Stroke Unit

Australia’s first ‘stroke ambulance’ with its onboard CT (computed tomography) scanner is a ground-breaking initiative that will enable faster diagnosis and treatment for people suspected of having a stroke.

Expected to launch in 2017 this new service represents an Australian first in stroke treatment innovation. Based at The Royal Melbourne Hospital in Melbourne the Mobile Stroke Unit aims to bring time-critical therapy to more people sooner as every minute counts with stroke. The onboard response team will include paramedics, a stroke nurse and a CT radiographer, bringing hospital level care into the community.

Recently announced, this project has been made possible with significant philanthropic and state government support. The project is a partnership between The Royal Melbourne Hospital, Florey Institute of Neuroscience and Mental Health, The University of Melbourne, Ambulance Victoria, Stroke Foundation and the Victorian State Government, Department of Health.
Hailed as a major breakthrough, Associate Professor Campbell’s research combined advanced brain imaging of acute ischemic stroke patients to identify those who could benefit from restoring blood flow with a minimally invasive procedure performed via angiogram to physically remove the clot blocking blood supply to the brain and causing the stroke.

A/Professor Campbell’s ground-breaking study was supported by an Early Career Fellowship grant in 2012 from the Stroke Foundation together with a number of other funders.

This pioneering research opened up an exciting new approach to traditional stroke treatment with the potential to save thousands of Australians from death and severe disability.

“In 89 percent of patients blood flow to the brain was restored when the clot removal therapy was used compared with 34 percent of patients who had standard clot-dissolving therapy alone,” A/Professor Campbell said.

When combined with traditional clot-dissolving treatment this innovative new approach led to a dramatic improvement in restoring vital blood flow back to the brain. This resulted in 70 percent of patients returning to independent living as compared to 40 percent under normal treatment.

“This is an extremely impressive outcome given these patients had the most severe forms of stroke and dramatically reduces the burden of disability,” A/Professor Campbell explained.

Now the challenge is to implement stent thrombectomy as a standard treatment for this type of ischaemic stroke across Australia.

Crucially it demonstrates how evidence-based research is needed to effect change in traditional stroke treatment, ultimately helping to reduce the burden of stroke on our community.

A/Professor Campbell joined the Stroke Foundation Board in 2015 and is Chair of the Stroke Foundation Clinical Council.
Related links

Researcher publications


Dr Annie McCluskey.
The Out-and-About Trial: Improving quality of life by increasing outdoor journeys after stroke.
The University of Sydney.
2008 Small Project Grant $19,854.
2010 NHF Grant $35,375.

Dr Annie McCluskey received Stroke Foundation research funding to undertake a pilot study to change the practice of occupational therapists and physiotherapists, and increase outings taken by stroke survivors. Building on this success Dr McCluskey’s, ‘Out-and-About Trial’ later secured a four-year project grant from the National Health and Medical Research Council for $586,600 in 2010.

Occupational therapist Dr Annie McCluskey has a keen interest in research that leads to improvement in the practical lives of stroke survivors and their families.

In 2008 the Stroke Foundation awarded a small project grant to Dr McCluskey to undertake a pilot study evaluating strategies to change therapists’ practice and help stroke survivors to get out of the house.


Dr McCluskey said this initial study demonstrated with training and feedback, therapists can change their practice leading to an increase in the number of outdoor journeys taken by stroke survivors.

The success of this pilot study enabled Dr McCluskey to apply for and be awarded a $586,600 grant from the NHMRC in 2010, to conduct a larger cluster randomised trial – ‘The Out-and-About’ trial: Improving quality of life by increasing outdoor journeys after stroke’

The Out-and-About Trial compared different types of education and coaching delivered to community rehabilitation teams. This multi-site project involved 22 community teams and 300 survivors of stroke in Sydney.

Dr McCluskey said the training encouraged therapists to escort people with stroke out into the community more frequently to practice their walking, using public transport and gain confidence outdoors.

Uniquely the project also uses personal global positioning systems (GPS) to assess how far and how often people go out.

Dr McCluskey said the use of GPS is quite revolutionary as previously pedometers didn’t allow researchers to measure journeys and distance when riding in cars or on buses.

“Being able to map the sort of journeys taken by people with stroke during a day, including visits to venues like libraries or local shops can tell a lot about quality of life and independence,” Dr McCluskey explained.
This larger more rigorous study did not produce the same results as the pilot study with only nine percent of stroke survivors seen by teams in the experimental group receiving four or more outings during therapy compared with five percent of stroke survivors seen by teams in the control group.

Findings from these studies were published in major journals but it highlights the continual need for more research into stroke rehabilitation.

Through our seed funding the Stroke Foundation proudly supports researchers to work towards delivering evidence-based, life-changing programs that improve the lives of stroke survivors in our community.

Dr Annie McCluskey is a current member of the Stroke Foundation Clinical Council.

Related links

Researcher publications


Stroke survivors can spend 11 hours a day sitting down, mostly for long periods at a time which increases their risk of cardiovascular disease and the possibility of having another stroke.

In 2012 Dr Coralie English secured a Stroke Foundation Small Project Grant to investigate patterns of inactivity in stroke survivors. She was keen to find ways of enabling stroke survivors to sit less and move more each day.

The initial study established survivors of stroke spent approximately 74 percent of their waking hours sitting down. The research also provided rich and valuable information on sedentary behaviour patterns and the context in which these behaviours occurred.

“Stroke survivors spent over three hours more a day in sedentary activities compared to their healthy peers, which included watching TV, listening to music and having quiet time,” Dr English said.

“This may be due to the elevated energy costs of tasks such as standing and walking that we know occurs in stroke survivors.

On average stroke survivors took 2,400 steps per day in comparison to 5,200 steps per day for healthy peers.”

Using this research Dr English secured a Nancy and Vic Allen Stroke Prevention Grant to undertake a further study entitled Sitting Time After Stroke. A safety and feasibility trial.

This trial was aimed at examining whether an intervention to encourage survivors of stroke to sit less each day was safe and feasible. Results indicated it was possible for stroke survivors to reduce their daily sitting time but just how much less sitting time is needed to see benefit and what the direct effects on the body is of sitting less is still unknown.

Building on research outcomes supported by Stroke Foundation grants Dr English, now based at the University of Newcastle and Hunter Medical Research Institute focussed on research into physical activity and fitness training for people after stroke and TIA.

Throughout her career Dr Coralie English has explored the direct health effects of sedentary lifestyles on stroke patients. Through a series of Stroke Foundation grants she has been able to progress her research and publish in journals such as International Journal of Stroke, Topics in Stroke Rehabilitation and Physical Therapy. Now she leads a team of researchers at University of Newcastle and Hunter Medical Institute focussed on research into physical activity and fitness training for people after stroke and TIA.
“Building on current knowledge in other population groups and in collaboration with leading world experts in sitting time research, we are conducting a laboratory based study to understand the immediate effects of prolonged sitting versus breaking up sitting time with short bursts of activity on cardiovascular disease risk makers,” Dr English said.

“This is the first time this work has been conducted in people with stroke.”

In this study participants come in to the lab on three occasions and undertake three conditions in random order. In one condition they sit for eight hours uninterrupted apart from toilet breaks. On another occasions participants’ sitting time will be broken up every half hour with either a short three-minute walk or simple standing exercises such as calf raises and marching on the spot. During each condition regular half hourly blood pressure measures and blood samples are taken to investigate reductions in cardiovascular risk markers.

“The next steps in this program of research is to understand just how much less sitting people need to do on a daily basis to see benefits and whether some types of exercises and activity breaks are better for different people,” Dr English said.

“I want to figure out how much physical activity is necessary to see some health benefits,” she added.

Dr English now leads a team of researchers at University of Newcastle and Hunter Medical Institute focussed on research into physical activity and fitness training for people after stroke and TIA.

“We have some exciting work underway and in development that will lead to greater understanding of the dose-response relationship between physical activity, fitness training and health after stroke as well as effective ways of supporting and enabling people after stroke to exercise.

“I’d like to eventually be able to say that if you can’t walk independently, if you can at least stand up x amount every x minutes, you will be healthier and reduce your risk of having another stroke.”

**Related links**

**Researcher publications**

2015 Seed Grant

2011 Small Project Grant and 2012 Nancy and Vic Allen Stroke Prevention Grant


2011 Small Project Grant


Dr Annie J. Hill.
Better access to aphasia rehabilitation for stroke patients through eSALT.
University of Queensland.
2013 Small Project Grant $19,523.
2015 Future Leaders Grant $ 9625.

Australian researchers are leading the way in exploring digital technologies to break down barriers to accessing vital health care.

Telerehabilitation uses technology to deliver rehabilitation services to patients in their own home or local communities via the internet.

In 2013 Dr Annie Hill received a Stroke Foundation Small Project Grant to investigate the feasibility and usability of eSALT in the rehabilitation of aphasia patients. Based on findings from this initial project eSALT became an integral application used in a 2013-2018 National Health and Medical Research Council Partnership Project grant for $751,348. In 2015 Dr Hill was awarded a Stroke Foundation Funding Future Leaders grant.

Dr Anne J. Hill received Stroke Foundation research funding to investigate the feasibility and usability of a telerehabilitation application eSALT in the rehabilitation of aphasia patients. Based on findings from this initial project eSALT became an integral application used in a 2013-2018 National Health and Medical Research Council Partnership Project grant for $751,348. In 2015 Dr Hill was awarded a Stroke Foundation Funding Future Leaders grant.

Participants could access treatment at home with new tasks uploaded by a speech pathologist tailored to the individual’s needs. The patient’s activities were evaluated by the speech pathologist and tasks adjusted or updated accordingly.

Participants were able to use the mobile device successfully to access therapy and were highly satisfied with receiving therapy in this manner. Participants reported they noticed language improvement and in turn improved quality of life.

Dr Hill said feedback from participants indicated they felt better within themselves and were more confident.

“Participants said they loved they could do this at any time. People were able to continue their rehab, whether at home or on holidays and because it was on the iPad they could access it anywhere,” she said.

Dr Hill said the eSALT system is potentially beneficial to patients who have difficulty in accessing services due to cost, physical impairments, lack of transport or remoteness.
The system allows all patients to access intensive services tailored to meet their individual needs and also receive ongoing feedback.

The results from the pilot study enabled Dr Hill to secure further funding from the University of Queensland (Early Career Researchers Grant for $35,900). Part of this funding allowed for the expansion of eSALT to cater for a wide variety of aphasia therapy needs and a small clinical trial. eSALT is also used in a 2013-2018 NHMRC partnership grant: ‘Can a new intensive model of aphasia rehabilitation achieve better outcomes than usual care?’

By providing grants for pilot or feasibility studies the Stroke Foundation plays a crucial role in supporting researchers to demonstrate the validity of their research helping them to secure larger grants for further trials.

In addition, Dr Hill received a Stroke Foundation Funding Future Leaders grant which allowed her to travel interstate as well as to the United States and Canada to meet with mentors and examine world-leading research about self-directed aphasia management.

“That type of grant is really great to get as it allows you to develop your skills and access leading mentors rather than a grant tied to a specific project,” Dr Hill said.

“It is amazing to have someone invest in you outside of your university. This type of investment is a real gift,” she said.

"I really believe the support I have received from the Stroke Foundation has contributed greatly to my career progression. External validation of your research ideas and plans is hugely affirming and also gives other funders confidence in your research. I have received other funding on the basis of the work I completed through my Stroke Foundation grants."

Dr Annie J Hill

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**Related links**

**Researcher publications**


Dr Emma Finch.
Using people with aphasia to train health professionals in effective communication strategies over the internet: A Phase II pre-post intervention study.
University of Queensland.
2013 Small Project Grant $18,557.

Dr Emma Finch received a Stroke Foundation grant to investigate the effectiveness of delivering training over the internet to health professionals to help them communicate more effectively with aphasia sufferers. This study, built on previous research, showed people with aphasia can help train health professionals to more effectively communicate with them. Research outcomes were published in *Speech, Language and Hearing Journal*.

Prior research undertaken by Dr Finch and the team had already demonstrated the benefits of training students and health professionals in strategies to improve communications with aphasia sufferers.

But in 2013 a Stroke Foundation grant supported Dr Finch to extend this research and help more people by investigating the effectiveness of delivering this communications training over the internet to benefit rural clinicians.

Dr Finch said the response from health professionals has been very positive. Patients provided invaluable feedback to health professionals about talking too fast or too slowly and whether more aids were needed.

“Once we started the project all we could think was ‘why haven’t we done this earlier?’” Dr Finch said.

She said people with aphasia really enjoyed participating and gained confidence in talking to people working on the study. It provided people with aphasia with a way of re-connecting after having a stroke and placed them back in control of their own treatment.
**Related links**

**Researcher publications**


Finch, E., Cameron, A., Fleming, J., Lethlean, J., Brown, K., & McPhail, S. Communication partner training with people with aphasia, health professionals and health professional students: A program of research. International Journal of Stroke. 11(Supp 1), 16-16.


“I would definitely encourage other people to apply. It was very straightforward and clear about what to do. You need to have good methodology and know what you want to do and where it will go. Show how your research will make a difference to the people who are involved.”

**Dr Emma Finch**
When Dr Maarten Immink’s mother suffered a stroke resulting in weakness (hemiparesis) and mood disorders he encouraged her to attend yoga classes with him to help with her rehabilitation.

“It had very positive outcomes for her,” Dr Immink said.

“Her emotional wellbeing, her quality of life and acceptance of the stroke and its effects all increased to the point where she was able to regain most of her independence and continue on with her journey in life after stroke,” he said.

Dr Immink decided to undertake Australia’s first study aimed to investigate the effects of yoga and meditation on the physical, mental and emotional wellbeing of stroke survivors with weakness on one side of their body (hemiparesis). This involved participants attending one yoga class a week and undertaking daily practice at home. The yoga intervention developed by Dr Immink included concentrative movement and breathing techniques as well as meditation. Preliminary results showed that stroke survivors who participated in the yoga intervention perceived improvements in the movement function and emotional wellbeing.

Objective assessment of changes due to the yoga intervention did not reveal any significant physical improvements but did reveal significant reductions in symptoms of depression and anxiety as well as improvements in quality of life. Participants responded that they were less depressed and anxious, that concentration and alertness were dramatically improved and that ‘limb neglect’ – ignoring a weak or less functioning part of the body – was reduced.

“A lot of people get benefits from yoga. In stroke survivors it appears to have a particular benefit in teaching body awareness, emotional awareness, focus, calm and a general sense of wellbeing,” Dr Immink said.
One participant reported that yoga helped her be more aware about not letting her ‘able’ side take over action in daily activities just because it could do it faster.

Dr Immink says this is an important finding as it is common in stroke survivors to allow the unaffected side to compensate in daily activity which leads to further loss of function in the affected side.

“The fact these participants felt markedly better after 10 weeks of yoga practice is very positive and certainly deserves further investigation through a larger study,” Dr Immink said.

In addition to publishing his results in Alternative Therapies in Health and Medicine, Disability and Rehabilitation and Topics in Stroke Rehabilitation, a DVD was produced to provide video instruction of the yoga practices that were used in the pilot trial. Dr Immink is working with Associate Professor Dominique Cadilhac and other research colleagues at Monash University, LaTrobe University, University of Adelaide and University of South Australia in the planning of what is hoped to be the largest clinical trial of yoga in stroke survivors to date.

Related links

Researcher publications


Speech pathologist Luisa Hewitt received a Stroke Foundation grant to test whether listening to music improved outcomes in early rehabilitation for survivors of stroke particularly in relation to their mood, cognition, communication and quality of life. Despite the pilot being unsuccessful it was a positive experience for the team involved. The Stroke Foundation grant allowed for more rigorous assessment of a small trial and allowed interdisciplinary collaboration between health professionals working as a team to deliver the activity.

For speech pathologist Luisa Hewitt receiving a Stroke Foundation grant sparked a career changing interest in research.

Luisa said the grant not only increased the scrutiny of the research but also increased its validity, the reputation of the institution and health professionals involved.

“It gave us connections to leaders in our field and opportunities to attend events and present that we otherwise may have never had,” Luisa said.

“When we applied we were so surprised our little stroke study was awarded a grant.

“The opportunity provided by the grant was monumental for our little unit.”

‘Stroke sounds: Music listening in stroke rehabilitation’ pilot study provided a group of patients with MP3 players loaded with their favourite types of music so they could listen to it as part of their rehabilitation program. For 12 weeks the group would listen to music for approximately an hour a day, six to seven days a week.

This group was then compared to a control group where participants received ‘standard care’.

“The hypothesis was the extra stimulation for the brain would result in improved outcomes in mood, cognition, quality of life and function compared to stroke patients who received a standard care plan,” Luisa said.

“Participants chose to listen to the music they enjoyed. Most enjoyed Frank Sinatra and other swing music, however, one man liked his music something heavier – Black Sabbath.”

The results of the trial were negative, however, Luisa said all involved enjoyed taking part and engaging in the experience.

“Feedback was positive. The groups reported really good mood and quality of life ratings,” Luisa said.

Luisa said mood within those carrying out the study was also positive. It brought a group of health professionals together as a team to deliver the activity: a speech pathologist, an occupational therapist and a consultant.
Luisa added the Stroke Foundation grant allowed for more rigorous assessment of the trial and the involvement of blind assessors.

Personally the grant gave her a taste of the process involved in conducting research and obtaining funding. It is an area where Luisa wishes to expand her skills into the future.

Related links
The outcomes of Luisa’s research are currently awaiting publication.

"Get help with the application. It is worthwhile investing the time. The grant has opened up new connections and enabled me to work on different things."

Luisa Hewitt
Mobile technology is playing an ever increasing role in our lives. It tracks the steps we take, the beat of our heart and how long we sleep. Researchers across Australia are tapping into this technology and its potential to help stroke survivors in our community.

Dr Caitlin Brandenburg is among those working to maximise the impact of this technology. Her research focuses on Communicative Fitness or CommFit™ – a competitive or exercise approach to speech therapy.

The Stroke Foundation supported Dr Brandenburg with a 2010 Honours grant to help find a reliable, accurate and accessible new form of ‘language pedometer’ device to measure and increase the amount of everyday talking time. From this initial research Dr Brandenburg secured further grants and developed the CommFit™ app. In 2016 the University of QLD announced they will begin testing a second version of the CommFit™ app.

Dr Caitlin Brandenburg received a Stroke Foundation Honours grant examining the capability of mobile technology to help aphasia sufferers in rehabilitation. This grant supported the first stage of research to help find a reliable, accurate and accessible new form of ‘language pedometer’ device to measure and increase the amount of everyday talking time. From this initial research Dr Brandenburg secured further grants and developed the CommFit™ app. In 2016 the University of QLD announced they will begin testing a second version of the CommFit™ app.

Following the initial study Dr Brandenburg secured further grants leading to the development of CommFit™. This digital application provides stroke survivors with the opportunity to direct their own rehabilitation. People can do it in their own homes at a time convenient to them and is not dependent on being able to access a speech therapist.

“Different personalities approached CommFit™ in different ways. Most tried to speak more and increased their activities,” Dr Brandenburg said.

“Some people got really into it and as a result changed their behaviour.

“As people can do it from home in private it is helpful for people who are socially isolated and those who may live in regional areas,” she said.

The next stage of CommFit™’s development is now underway. A new trial is being carried out across Australia where devices are being utilised to assist in goal setting, encouraging increased activity and hopefully result in improved ongoing outcomes for aphasia sufferers.
Ultimately Dr Brandenburg hopes the CommFit™ app can be successfully developed to work easily with a range of wearable, accessible and affordable devices to help those with aphasia.

“It is important to remember it is not just the grant, but what it will lead to. There is a potential to have a big impact, even when you are starting from a small grant.”

Dr Caitlin Brandenburg

Related links

Researcher publications
The CommFit™ App video
Media release
How we review research grants

The Research Advisory Committee oversees the Stroke Foundation Research Program. All research funding applications undergo an independent and rigorous peer review process. Applications are reviewed and scored by independent reviewers with funding being awarded to the highest ranking applications.

Grant application timeframes

Typically, Stroke Foundation research grant timeframes are:

› May/June – Grant round opens.
› August – Grant applications close.
› December – Grants awarded.

Email research@strokefoundation.org.au

References