

# **Foreword**

High blood pressure is the key risk factor for stroke, but with knowledge it is preventable and manageable.

In fact, the number of strokes would be almost cut in half (48 percent) if high blood pressure alone was eliminated.<sup>1</sup>

Yet, more than 4.1 million Australians have uncontrolled high blood pressure or hypertension.<sup>2</sup> Most of those living with uncontrolled high blood pressure are not aware that they are putting themselves at serious risk of stroke and other chronic disease. High blood pressure often has no symptoms. The only way to know if you have high blood pressure is to have it checked.

Stroke Foundation is on a mission to reduce the number of preventable strokes experienced by Australians by supporting them to identify and manage their risk of stroke.

Australia's Biggest Blood Pressure Check is central to our mission. Australia's Biggest Blood Pressure Check aims to increase awareness of the link between high blood pressure and stroke. By delivering free health checks in the community, we empower Australians to understand their stroke risk and know what to do to manage it. This includes referring those at moderate to high risk to their doctor for further tests and advice.

Australia's Biggest Blood Pressure Check began in 2014. Initially, it was a one day national campaign, then it expanded to a month long campaign coinciding with World Hypertension Day in May. Now it is a year long campaign reaching more Australians than ever before. Since the beginning of the campaign, over one million Australians have had a free health check. In 2018, Stroke Foundation partnered with SiSU Health to deliver digital health checks and capture more data to assess the prevalence of high blood pressure in our communities. The SiSU Health Group has developed self-service digital health stations which allow people to carry out their own assessment in a number of easy steps.

The process only takes four minutes, but the results can be life-changing for the individual and can help the Stroke Foundation identify blood pressure hot spots in our community.

In 2018 the program delivered more than 500,000 free health checks on SiSU Health Stations in more than 400 community settings across Australia including workplaces, pharmacies and public events.

The data collected from the SiSU Health Stations in 2018 highlighted 15 percent of all Australians tested had high blood pressure, which is any reading over 140/90mmHg. More men (17 percent) than women (13 percent) had high blood pressure.

More than 80 percent of people found with high blood pressure did not know this prior to their health check and were referred to their doctor for further advice.

Stroke can change lives in an instant. It is one of Australia's biggest killers and a leading cause of disability. It is estimated there will be more than 56,000 strokes this year – that is one stroke every nine minutes.<sup>3</sup>

The higher your blood pressure, the greater your risk of stroke.

In positive news, data from Australia's Biggest Blood Pressure Check showed a 60 percent reduction in high blood pressure in people who have had more than one health check over time. This suggests that with knowledge, Australians will take action to improve their health and change is possible.

Now, we must ensure more Australians are equipped with the knowledge and support they need to reduce their risk of stroke.

Research shows for every dollar invested in prevention within Australia there is a \$14 return. This means a change in our approach to healthcare, a change to where prevention is prioritised and where government action on prevention is seen as an investment in the future health and wellbeing of all Australians.

#### Spend per person on prevention<sup>5</sup>







\$334 per person

United States \$322 per person





United Kingdom \$154

Australia spends approximately \$2 billion on prevention each year, equivalent to \$89 per person. This represents just 1.34 per cent of all health spending, which is significantly less than equivalent Organisation for Economic Co-operation and Development (OECD) countries such as Canada (\$334 per person), the United States (\$322 per person) and the United Kingdom (\$154 per person) spend on preventive health.

Taking action to reduce the prevalance of high blood pressure would result in fewer strokes, easing the burden on families, the community, the health system and the economy.

Australia's Biggest Blood Pressure Check is needed now more than ever because the number of people developing high blood pressure is increasing as our population grows and ages and our lifestyle becomes more sedentary.

Australia is forecast to record more than 132,500 strokes a year by 2050,<sup>3</sup> if we do not act now to reduce high blood pressure rates in our community.

High blood pressure can be prevented by avoiding smoking, eating a healthy diet, being physically active, maintaining a healthy weight, and reducing alcohol consumption.

The Stroke Foundation would like to thank all those who took the time to have a health check in 2018. We also want to thank those who hosted the SiSU Health Stations in their workplaces and public venues. We urge Australians to continue monitoring their blood pressure in 2019 and beyond, and encourage their friends, family and work mates to get a health check too.

Together we can reduce the risk of stroke due to uncontrolled high blood pressure.

Bruc C.V. Campbell

Professor Bruce Campbell, Stroke Foundation Chair, Clinical Council **Dr Noel Duncan**, Founder & Managing Director SiSU Health Group

## **About**

#### About Australia's Biggest Blood Pressure Check

Australia's Biggest Blood Pressure Check promotes free health checks on SiSU Health Stations in more than 400 community settings, such as workplaces, pharmacies, community clubs and events. This ongoing health initiative gives individuals the tools to better understand risk factors for stroke as well as Type 2 diabetes.

These self-serve health checks are provided at no cost to the individual, and can empower Australians to know their blood pressure and other risk factors. Further, these health checks can empower high risk people to engage with their general practitioner, which should lead to better risk factor management and reduce their risk of stroke.

Partnering with Priceline Pharmacy, the Commonwealth Bank of Australia, CBHS Health Fund, and AMP, more than one million blood pressure checks have been undertaken on SiSU Health Stations over the last two years of the Australia's Biggest Blood Pressure Check campaign.

#### Blood pressure and stroke

- Six million Australians (34%) aged 18 years and above have high blood pressure (hypertension). Of these, 4.1 million (68%) have uncontrolled or untreated hypertension.<sup>2</sup>
- High blood pressure is the top modifiable risk factor for stroke and the most preventable cause of stroke worldwide.<sup>1</sup>
- The higher the blood pressure, the greater the stroke risk.<sup>6</sup>
- High blood pressure damages blood vessels, causing cholesterol build-up, vessel thickening and weakening of blood vessel walls. These changes can lead to stroke, either by causing the blood vessels to block (restricting brain blood flow) or burst (causing bleeding within the brain).
- Major contributors to high blood pressure include poor diet, (especially a high consumption of salty foods), being overweight, excessive alcohol consumption, smoking and insufficient physical activity.<sup>7</sup>

#### Understand blood pressure readings

High blood pressure is sometimes called the 'silent killer' because sufferers often show no symptoms.

Blood pressure varies throughout the day to meet your body's needs. Therefore the only way to know your numbers is to have your blood pressure checked regularly.

Blood pressure is expressed with two numbers, for example:

120

Systolic pressure – The force your blood puts on blood vessel walls as your heart pumps.

80

Diastolic pressure – The force your blood puts on blood vessel walls when your heart is resting between beats.

#### Normal

✓ Optimal BP is 120/80mmHg or less

#### Normal/High-normal

**✓** BP is 120/80 – 139/89mmHg

#### High/Very high/Severe

X High BP is 140/90mmHg or above

High blood pressure is the top modifiable risk factor for stroke.

#### A note on national coverage

Results in this report are based on usage of SiSU Health Stations located around Australia. Although the number of people tested was large, it may not be entirely representative of the whole Australian population. SiSU Health Group's SiSU Health Station footprint continues to grow around Australia through retail, corporate, government and public health partners.

A detailed analysis of the representation and health impact of the SiSU Health Station network in Australia will be published by Swinburne University in July 2019.

## **National results**

#### More than 500,000 health checks

During 2018, there were 505,581 free health checks, including blood pressure checks, conducted on SiSU Health Stations nationally at more than 400 locations.

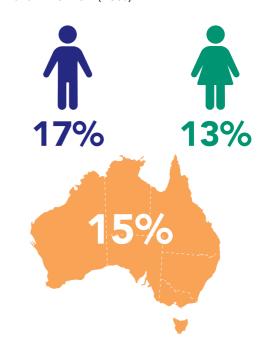
- > 261,549 female (52%)
- > 244,032 male (48%)

State	Number of health checks*
New South Wales	206,479
Queensland	85,371
Victoria	62,624
Western Australia	44,297
South Australia	21,210
Australian Capital Territory	6,170
Tasmania	7,207
Northern Territory	775

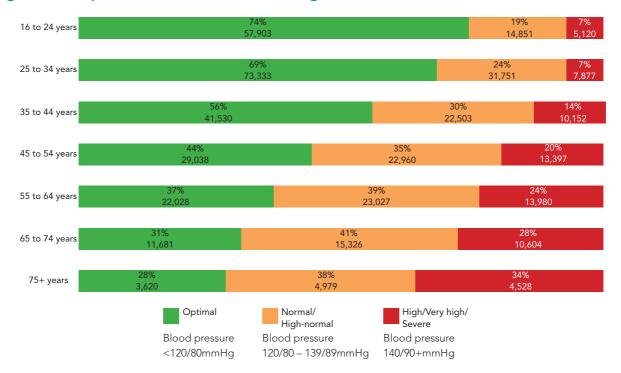
<sup>\*</sup>Excludes checks for which an Australian postcode was not provided by the individual, and therefore does not total 505,581.

# High blood pressure remains prevalent

Fifteen percent of all Australians tested had high blood pressure, with men (17%) at higher risk than women (13%).



#### High blood pressure increases with age



The proportion of adults with high blood pressure increased with age – from 7 percent of 16-24 year olds to a peak of 34 percent in those aged 75 and over.

#### Hot spots for high blood pressure nationally



Rank	State	Suburb/Town	% high BP
1	NSW	Schofields	46%
2	VIC	Sunbury	36%
3	SA	Nailsworth	35%
4	SA	Currency Creek	35%
5	SA	Stepney	34%
6	SA	Renmark	34%
7	NSW	Pacific Palms	33%
8	TAS	Miandetta	31%
9	VIC	Templestowe	30%
10	QLD	Kalapa	30%

Note – Excludes postcodes with fewer than 100 health checks completed. Data is limited to areas where SiSU Health Stations were located.

#### A silent killer



82%

of those checked did not know they had high blood pressure



63%

of those with high blood pressure (41,552) were not on blood pressure lowering medication

High blood pressure, or hypertension, is known as a silent killer as there are often no symptoms. The only way you know if you have high blood pressure is to get it checked and monitor it regularly.

"



The major concern with high blood pressure is many people don't realise they have it. It has no immediate symptoms, but over time, it damages blood vessels and increases the risk of stroke and heart disease.

Professor Bruce Campbell Chair, Clinical Council

# Stroke risk — National

The stroke risk assessment tool, which is a questionnaire built into the digital health checks, determines if a person has an elevated risk of stroke and related chronic disease. The stroke risk assessment includes:

- A type 2 diabetes risk assessment (using the Australian Type 2 Diabetes Risk (AUSDRISK) Assessment Tool), including waist measurement. People with Type 2 diabetes tend to have high blood pressure, elevated cholesterol and twice the risk of developing cardiovascular disease, including stroke.
- An assessment of an individual's stroke and heart disease risk factors.
- **>** A blood pressure check.

The assessment is evidence-based and aligns with the Guidelines for Management of Absolute Cardiovascular Disease Risk (National Vascular Disease Prevention Alliance 2012).

#### Total stroke risk checks



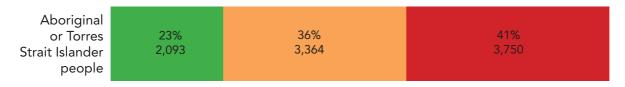
447,693

One in five were identified as high risk of stroke

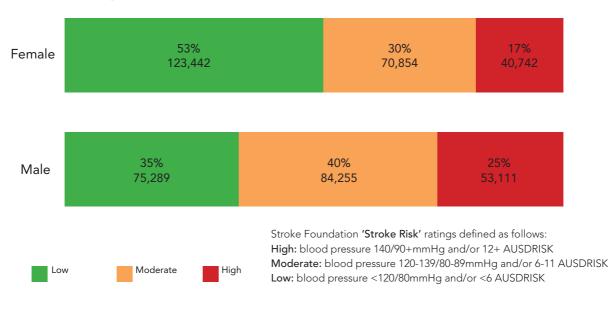


21% of people with a high stroke risk

#### It's almost double for Indigenous Australians

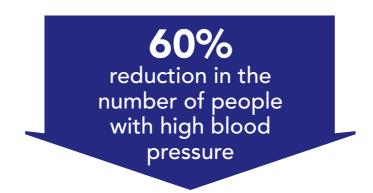


#### Men have a higher stroke risk than women



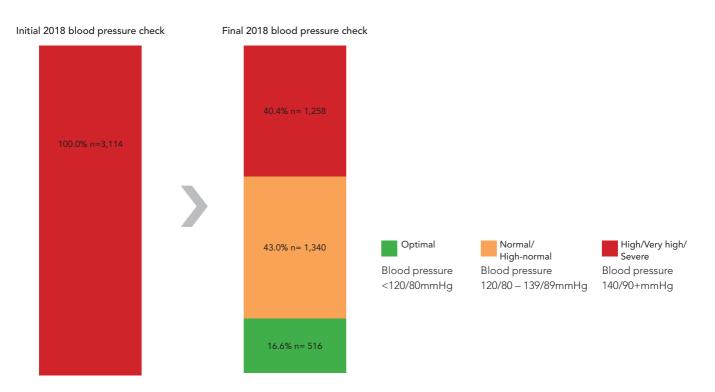
# **Driving community change**

#### Awareness can deliver positive change



Analysis of the 3,114 people who recorded high blood pressure in their first check, and who undertook at least two health checks on a SiSU Health Station in 2018, demonstrated:

- > Sixty percent had reduced their blood pressure to below 120/80mmHg by their final check.
- Median initial blood pressure of 144/91mmHg reduced to 132/82mmHg at the final check.
- > Seventy one percent were not on blood pressure lowering medication at the time of their high blood pressure reading, and 11 percent of these people subsequently visited their GP and were placed on medication.



Note: The population is limited to members completing two or more SiSU Health Station checks during 2018, who recorded high blood pressure in their first check and had a minimum of eight days between their initial and final blood pressure reading.

# Shane's story

# Don't muck around with high blood pressure

Shane Elliott's one big regret is he did not take his blood pressure more seriously.

The 47 year old school principal and father of two has been living with high blood pressure since his early twenties and had a family history of the condition.

Shane admitted he thought he was invincible. Shane was slack with his medication and was even warned by doctors he would be putting himself at risk of a stroke by not taking it.

Then one day in 2014, Shane collapsed at work.

Shane's colleagues attempted to call an ambulance for him, but he insisted he would be okay and drove himself home with a splitting headache.

The headache did not go away and in the coming days Shane's condition continued to deteriorate. He was showing the F.A.S.T. (Face, Arms, Speech and Time) signs of stroke and returned to hospital. Shane's stroke was diagnosed three days after its onset.

Shane spent the next eight weeks in hospital and had to learn to walk again, open a bottle and tie his shoe laces, among other things. But the most challenging impact of stroke was yet to come. Once home, Shane felt useless and lonely.

Shane was worried he was a burden on his wife and two teenage daughters and he felt guilty.

"I really hit rock bottom," Shane said.

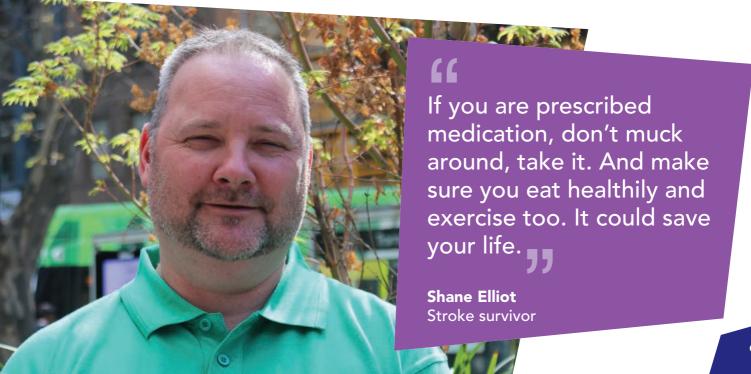
"I cried constantly, I had no control of my emotions or thoughts. I was depressed.

"I wanted to get out of the house and be able to contribute to my family and the community again. It took time but I got back to work eight months after my stroke with a new appreciation for life.

"Before my stroke, I just didn't comprehend how important it was to keep my blood pressure under control. I was slack and I am not proud of that," he said.

"The reality is, I probably could have prevented my stroke. Now I always take my medication.

"If you are prescribed medication, don't muck around, take it. And make sure you eat healthily and exercise too. It could save your life," Shane said.



# **QLD** report



### High blood pressure prevalence



QLD - 15% National - 15%

# High blood pressure but not on BP lowering medication



QLD - 62% National - 63%

### High stroke risk rating



QLD - 22% National - 21%

## Top 10 Queensland hotspots

Postcode	State	Suburb/Town	% high BP
4702	QLD	Kalapa	30%
4811	QLD	Idalia	27%
4655	QLD	Nikenbah	25%
4021	QLD	Kippa-Ring	25%
4017	QLD	Brighton	24%
4285	QLD	Cedar Grove	23%
4020	QLD	Scarborough	23%
4301	QLD	Redbank Plains	23%
4510	QLD	Caboolture	22%
4370	QLD	Maryvale	22%

# **NSW** report



## High blood pressure prevalence



NSW - 15% National - 15%

# High blood pressure but not on BP lowering medication



NSW - 64% National - 63%

### High stroke risk rating



NSW - 20% National - 21%



I take extra care of myself now. I am on blood pressure medication to prevent a second stroke and I have made healthy lifestyle changes.

**Emily Korir**Stroke survivor

### Top 10 New South Wales hotspots

Postcode	State	Suburb/Town	% high BP
2762	NSW	Schofields	46%
2428	NSW	Pacific Palms	33%
2470	NSW	Dobies Bight	29%
2322	NSW	Tarro	29%
2260	NSW	Wamberal	29%
2326	NSW	Abermain	28%
2582	NSW	Bookham	28%
2072	NSW	Gordon	27%
2250	NSW	Peats Ridge	27%
2282	NSW	Warners Bay	27%

# **ACT** report



### High blood pressure prevalence



ACT – 14% National – 15%

# High blood pressure but not on BP lowering medication



**ACT - 63% National - 63%** 

### High stroke risk rating



**ACT – 24% National – 21%** 

## Top 10 Australian Capital Territory hotspots

Postcode	State	Suburb/Town	% high BP
2607	ACT	Isaccs	19%
2615	ACT	Charnwood	16%
2912	ACT	Gungahlin	16%
2605	ACT	Curtin	15%
2914	ACT	Amaroo	15%
2913	ACT	Palmerston	15%
2614	ACT	Aranda	14%
2606	ACT	Phillip	13%
2911	ACT	Mitchell	13%
2617	ACT	Bruce	13%

# **VIC** report



## High blood pressure prevalence



VIC - 15% National - 15%

# High blood pressure but not on BP lowering medication



VIC - 64% National - 63%

### High stroke risk rating



VIC - 20% National - 21%

I had no idea I had high blood pressure until my stroke.

**Ida Dempsey** Stroke survivor

## Top 10 Victorian hotspots

Postcode	State	Suburb/Town	% high BP
3429	VIC	Sunbury	36%
3106	VIC	Templestowe	30%
3204	VIC	Mckinnon	29%
3134	VIC	Warranwood	27%
3437	VIC	Gisborne	26%
3089	VIC	Diamond Creek	26%
3465	VIC	Daisy Hill	25%
3075	VIC	Lalor	24%
3109	VIC	Doncaster Heights	24%
3401	VIC	Riverside	24%

# **TAS** report



## High blood pressure prevalence



TAS - 19% National - 15%

# High blood pressure but not on BP lowering medication



TAS - 63% National - 63%

### High stroke risk rating



TAS - 23% National - 21%

## Top 10 Tasmanian hotspots

Postcode	State	Suburb/Town	% high BP
7310	TAS	Miandetta	31%
7250	TAS	Travellers Rest	28%
7011	TAS	Austins Ferry	23%
7010	TAS	Rosetta	21%
7050	TAS	Kingston Beach	20%
7030	TAS	Broadmarsh	19%
7019	TAS	Rokeby	19%
7015	TAS	Rose Bay	18%
7009	TAS	Lutana	15%
7000	TAS	Mount Stuart	14%

# **SA** report



### High blood pressure prevalence



SA - 19% National - 15%

# High blood pressure but not on BP lowering medication



**SA - 62% National - 63%** 

### High stroke risk rating



**SA - 23% National - 21%** 



Research has shown the number of strokes would be almost cut in half (48 percent) if high blood pressure alone was eliminated.

Associate Professor Seana Gall Member of Stroke Foundation Clinical Council

## Top 10 South Australian hotspots

Postcode	State	Suburb/Town	% high BP
5083	SA	Nailsworth	35%
5214	SA	Currency Creek	35%
5069	SA	Stepney	34%
5341	SA	Renmark	34%
5064	SA	St Georges	29%
5063	SA	Frewville	28%
5018	SA	North Haven	27%
5352	SA	Tanunda	26%
5161	SA	Reynella	25%
5061	SA	Hyde Park	24%

# **NT** report



## High blood pressure prevalence



NT - 16% National - 15%

# High blood pressure but not on BP lowering medication



NT - 60% National - 63%

### High stroke risk rating



NT - 26% National - 21%

## Top Northern Territory hotspot

Postcode	State	Suburb/Town	% high BP
0870	NT	Alice Springs	17%

Note: There is only one Health Station in NT. There are customers using the Station who live in neighbouring postcodes, but the table excludes postcodes where there are fewer than 100 checks. Data is limited to areas where SiSU Health Stations were located.



# **WA** report



## High blood pressure prevalence



WA - 15% National - 15%

# High blood pressure but not on BP lowering medication



WA - 64% National - 63%

### High stroke risk rating



WA - 21% National - 21%



Give up the smoking. It's no good for you. Take it from me, it brings your blood pressure up.

**Aunty Pam Smith** Stroke survivor

### Top 10 Western Australian hotspots

Postcode	State	Suburb/Town	% high BP
6056	WA	Bellevue	24%
6330	WA	Lower King	21%
6172	WA	Port Kennedy	21%
6162	WA	South Fremantle	20%
6149	WA	Leeming	20%
6171	WA	Baldivis	19%
6026	WA	Woodvale	19%
6157	WA	Bicton	19%
6173	WA	Secret Harbour	19%
6175	WA	Singleton	19%

# Helen's story

I've been a hairdresser for almost 40 years. It's a job I love – and it's exactly what I was doing on January 11 in 2018, the day I had a stroke.

I had just finished cutting my friend's hair from home when I sat down to put some shoes on. I had a few errands to run (including picking up my blood pressure medication, which had run out two days earlier).

I started to feel odd. When I looked over at my son, I saw two of him. I was experiencing double-vision. I also felt dizzy, then the pins and needles started – first in my fingertips, then my toes, then up my arm and leg. At that moment I knew something was not right.

My 16 year old son George called triple zero (000), the paramedics arrived and they took me to hospital immediately. I was given thrombolysis to dissolve a blood clot, which saved my life.

I was in hospital for seven weeks. I've faced, and I am still facing, many challenges. I have not been able to return to my passion of hairdressing, I've lost my independence and have no income for the first time in my life. I'm not able to drive or cook all the beautiful Greek meals I did before my stroke.

I've had to learn to depend on others.

I've been a single mum for many years, but after my stroke my 21 year old son John took on the big responsibility of caring for his two younger brothers. This gave me peace of mind and I could focus on my rehab and recovery. John, George (16) and Michael (14) have learnt to be a team.

To help with my overall health, I've given up smoking, eating unhealthy food and stressing over nothing. I water my garden and 'smell the flowers' as I know I've been given a second chance at life.

I recently managed to put on a pretty dress and heels for a short time to attend a wedding. It felt amazing. But the best part was, I got to dance with my boys. That was the most euphoric feeling I've ever had.

Life is bittersweet. Stay strong.







We're proud to have been involved in Australia's Biggest Blood Pressure check, reinforcing our Priceline Pharmacy network as a key link to community healthcare through SiSU Health Stations and our highly trusted pharmacists.

**Rob Tassie** 

General Manager Healthcare Services, Australian Pharmaceutical Industries

#### About the SiSU Health Check

#### Globally, over 2.8 million health checks have been completed on SiSU Health Stations.

The SiSU Health Station is the only medically certified (ISO 13485), TGA approved, self-serve device in Australia that allows the general public to complete a detailed health check in 4 minutes. A full health check includes accurate measurements of blood pressure, body composition, heart age, heart rate, BMI and diabetes risk. Additional support is provided across the SiSU Health Station and SiSU Portal. Individuals who receive an 'at risk' result during a health check receive an on-screen recommendation to consult with a general practitioner for further advice. To date, over 380,000 health checks have resulted in a recommendation to follow-up with a general practitioner. The secure SiSU Portal enables individuals to track their results over time and improve their health through accessible lifestyle plans and programs.

SiSU Health Group is a certified Medical Device Manufacturer that builds SiSU Health Stations in accordance with ISO 13485:2016 and Medical Device Directive 93/42/EEC Annex V in Europe. Within Australia, the SiSU Health Station has TGA Approval (ARTG: 317543).

SiSU Health Group complies with International Regulations and Standards, has rigorous calibration procedures and maintains high quality procedures. SiSU Health Data and Information Security complies with the ISO 27001:2013 Information Security Management System and is globally aligned with the European Union's General Data Protection Regulation (GDPR).

To find a SiSU Health Station near you visit <a href="www.sisuhealthgroup.com/find-a-sisu/">www.sisuhealthgroup.com/find-a-sisu/</a>



At an unprecedented scale, we're revolutionising the way individuals, families and whole communities can 'Own their Health'. The free, highly accessible and accurate SiSU Health Station allows individuals to definitively measure, track and improve the health metrics that matter - including high blood pressure - the silent killer.

**Dr Noel Duncan** Founder & Managing Director SiSU Health Group

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#### **About SiSU Health Group**



SiSU Health Group provides SiSU Health Stations to organisations that wish to encourage their customers, employees and wider community to take ownership of their health. Our mission is to empower healthier humanity by enabling people to measure, track and improve their health through a global network of free, self-serve SiSU Health Stations and ongoing support programs. SiSU Health Group positively disrupts the enormous social and economic burden that preventable disease presents to individuals, families and future generations.

#### **About 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 and innovative treatments. We support survivors on their journey to live the best possible life after stroke. We are the voice of stroke in Australia.

#### **Contact**



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#### SiSU Health Group

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