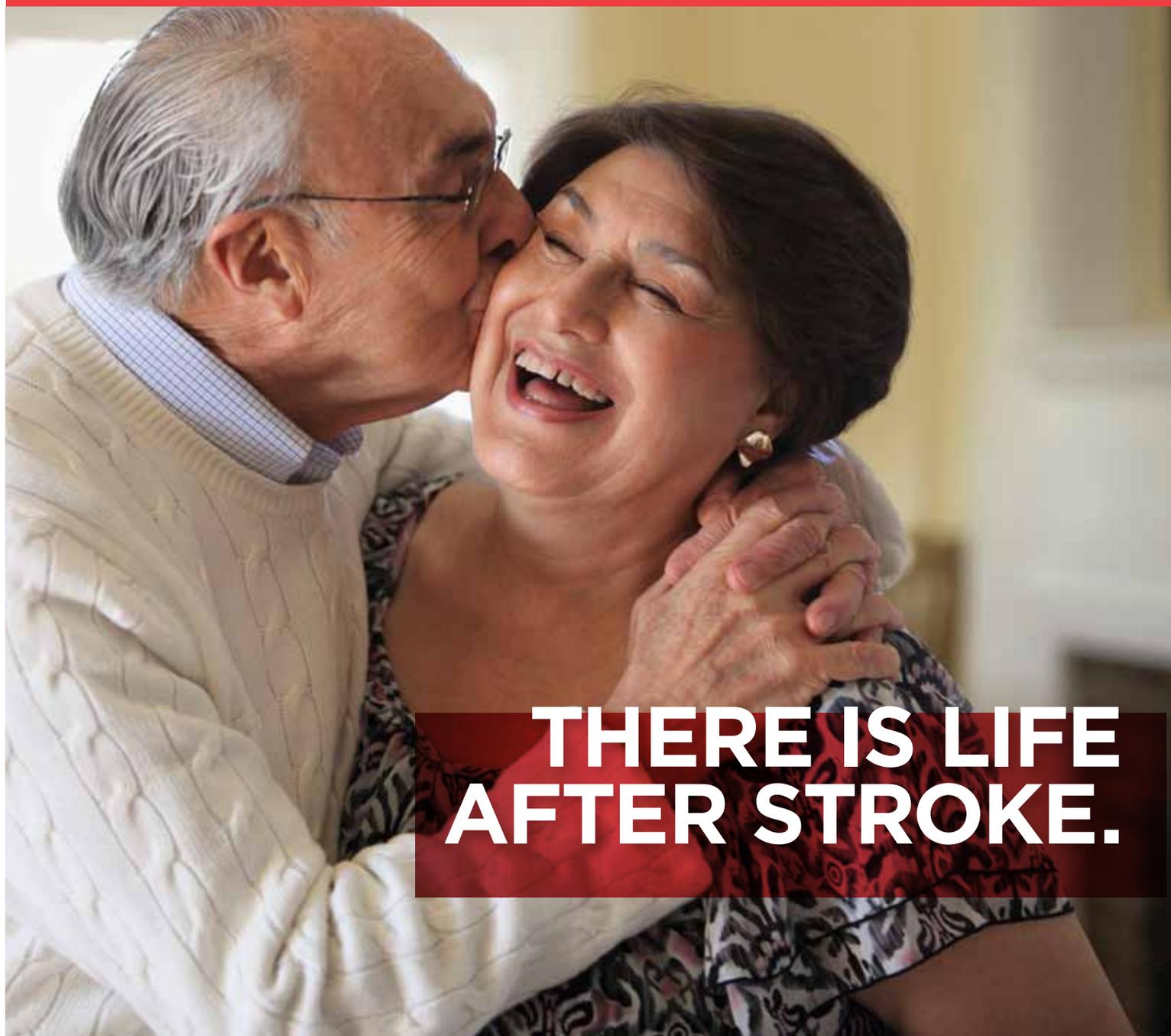




## 2013 STROKE REPORT



**THERE IS LIFE  
AFTER STROKE.**

FAMILY CAREGIVERS PLAY A STARRING ROLE  
IN THE RECOVERY JOURNEY FOR STROKE SURVIVORS



# STROKE RECOVERY CAN CONTINUE FOR MONTHS OR EVEN YEARS.

The Heart and Stroke Foundation's 2013 Stroke Report highlights the far reaching effects of stroke in Canada and the critical role that family and friends play in helping survivors recover and go on to lead full, meaningful lives.

According to a new poll carried out by the Heart and Stroke Foundation, half of Canadians say they have had a close friend or family member who has survived a stroke. And just as striking, one in five Canadians report being directly involved in the support and care of a stroke survivor. But at the same time, more than one-third of Canadians mistakenly believe that the recovery period is limited to a few months.

"Our poll confirmed what we have long suspected - that stroke touches the lives of many Canadians, and family members and friends play an important role in the recovery process," says Ian Joiner,

Director, Stroke, Heart and Stroke Foundation. "We need to pay more attention to every aspect of stroke - prevention, recognition, treatment, and rehabilitation and recovery."

Added to the fact that half of the population has a personal connection with a stroke survivor are some compelling statistics: nine in 10 Canadians have at least one risk factor for heart disease and stroke; 50,000 strokes occur each year and 315,000 Canadians are living with the effects of stroke. The economic cost is also high: stroke costs the Canadian economy \$3.6 billion a year in physician services, hospital costs, lost wages and decreased productivity.

"Combine these factors, add to this the continued aging of the population and a more complete story of stroke emerges," says Joiner. "And the sense of urgency and need for action becomes clear."

## WHAT IS STROKE?

In simple terms, a **STROKE IS A BRAIN ATTACK**. It is a sudden loss of brain function that is caused by the interruption of blood flow to the brain or the rupture of blood vessels in the brain, which can cause brain cells to die.

Each stroke is different. The effects of a stroke depend on where the brain was injured, as well as how much damage occurred. A stroke can impact any number of areas including the ability to move, see, remember, speak, reason and read and write.

## SIGNS OF STROKE

The 2013 Stroke Report tells the changing story of stroke in Canada. This is a story of hope thanks to great advances in stroke rehabilitation and recovery. And it's a story that highlights the essential role family and friends play in in each survivor's recovery journey. The Heart and Stroke Foundation poll summarized in the report reveals that Canadians are optimistic about the outlook for stroke survivors, as more than four in five believe that people who survive a stroke can be treated, recover and live meaningful lives. But the report also acknowledges there is more work to be done at all levels to help Canadians prevent and recover from stroke.

### STROKE IS A MEDICAL EMERGENCY AND EVERY MINUTE COUNTS

In the world of stroke **time is brain**. Every minute treatment is delayed can result in more damage and cell death. Stroke is a medical emergency. Recognizing the signs of stroke and responding immediately by calling 9-1-1 or the local emergency number is essential. The faster someone experiencing a stroke gets to the hospital, the better their chances of survival and recovery - with little or no disability.



**WEAKNESS:** Sudden loss of strength or sudden numbness in the face, arm or leg, even if temporary.



**TROUBLE SPEAKING:** Sudden difficulty speaking or understanding or sudden confusion, even if temporary.



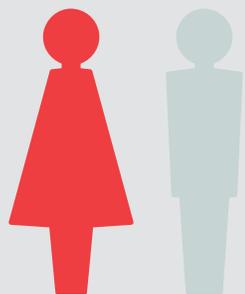
**VISION PROBLEMS:** Sudden trouble with vision, even if temporary.



**HEADACHE:** Sudden severe and unusual headache.



**DIZZINESS:** Sudden loss of balance, especially with any of the above signs.



**1 IN 2  
CANADIANS  
HAS BEEN  
TOUCHED BY  
STROKE**

### POLL HIGHLIGHTS

**According to a new poll\* by the Heart and Stroke Foundation:**

- **ONE IN TWO** Canadians report having a close friend or family member who is a stroke survivor.
- **ONE IN FIVE** Canadians report being directly involved in the support and care of a stroke survivor.
- Fewer than **TWO IN THREE** Canadians believe that most strokes can be prevented.
- Nearly **ONE IN FIVE** believe that most strokes are fatal.
- More than **FOUR IN FIVE** believe that people who survive a stroke can be treated, recover and live meaningful lives.
- Nearly **ONE IN SIX** Canadians believe that once a person has recovered from a stroke there is nothing they can do to prevent another one.
- **ONE IN THREE** Canadians believe that once a person survives a stroke there is an initial period of a few months of recovery after which they are unlikely to recover any further.

\*Heart and Stroke Foundation public opinion polling conducted by Environics by telephone between April 4 and 14, 2013 with a total of 2,002 respondents. Results of a survey of this size can be considered accurate to within plus or minus 2.19 percent, 19 times out of 20.

## STROKE RECOVERY STARTS RIGHT AWAY

The recovery process starts as soon as emergency medical services arrive or someone is seen by a stroke expert and treatment begins. It continues in the hospital with rehabilitation and extends well beyond, once a patient is discharged.

The recovery and rehabilitation process involves a team of health professionals that can include doctors, nurses, physiotherapists, occupational therapists, speech-language therapists and psychologists. Caregivers, family and friends are also critical in the recovery journey.

## CAREGIVERS PLAY AN ESSENTIAL ROLE

Caregivers – often spouses or other family members or friends – have a key role in the recovery process, especially once a stroke survivor leaves hospital and returns home. Indeed they make that return possible: research shows that stroke survivors are four times more likely to be discharged from hospital when they have a spouse or family member to go home to, compared with those who live alone.

Most stroke survivors experience mild stroke (68 per cent) and return home. But they still require hard work to recover and many rely on the support of family caregivers.

“After my stroke, my mom was my rock,” says Janel Nadeau, who suffered a hemorrhagic stroke at 19 and has gone on to become a doctor. “She was my advocate. She was my communicator. I knew that I did not have to worry about what

was going on outside of my little bubble, because my mom would take care of it so I could focus simply on recovering.”

There are an estimated 4 to 5 million Canadians providing care for a family member with long-term health problems. According to the Heart and Stroke Foundation poll, a striking one in five



**“MY MOM WAS MY ROCK.”**

– Stroke survivor Janel Nadeau (with mom, Roxanne)

Canadians has been involved in the direct care and support of a stroke survivor.

Many stroke survivors would be unable to return home without the long-term support of their families and friends. These caregivers are a crucial part of the health care team, providing physical help during exercises, assisting with personal needs like dressing and using the washroom, taking on tasks like driving, and liaising with the medical team. They can also provide strong emotional support during the rehabilitation journey and ensure that stroke survivors know they are loved and valued, says Dr. Debbie Timpson, a specialist in physical medicine and rehabilitation and chief of rehabilitation at Pembroke Regional Hospital in Ontario.

Many stroke survivors rely on relatives or close friends to help them relearn routine activities, regain abilities, cope with challenges and frustrations and do things they cannot do for themselves. Stroke caregivers also become navigators of the healthcare system and advocates for services and follow-up. In addition, caregivers can help educate other family members by explaining the changes their loved ones are going through.

  
**1 IN 5**  
**CANADIANS**  
**HAS HELPED**  
**CARE FOR A**  
**STROKE**  
**SURVIVOR**

## ADVANCING STROKE REHABILITATION AND RECOVERY

Some good news is that the number of deaths from stroke has been declining due in part to advances in stroke awareness, and in emergency and acute services. But there are still 315,000 Canadians living with the effects of stroke and this number is expected to increase. Although stroke can occur at any age, most strokes occur in people over 65.

As the population continues to age, more people will be living with the effects of stroke, making improved access to rehabilitation and recovery services more important than ever. Sixty per cent of people who have a stroke report that they need help afterwards and 80 per cent experience restrictions to their daily activities.

The Heart and Stroke Foundation poll reveals Canadians are optimistic about the outlook for stroke survivors, with more than four in five believing that people who survive a stroke can be treated, recover and live meaningful lives.

And while this is true in theory, it is not a reality for all Canadians.

Rehabilitation is key to recovery for stroke survivors, to help them regain as much of their independence as they can and recover to the fullest extent possible. Rehabilitation cannot cure damage to the brain but it can help patients relearn the best possible use of their minds and bodies.

Every year, patients with stroke spend more than 639,000 days in acute care in Canadian hospitals. When they leave acute care, 19 per cent go to a rehabilitation facility and 10 per cent go to long-term care. A far bigger group, 58 per cent, return home where they will rely on support from friends and family.

Canadians who experience a moderate to severe stroke benefit most from rehabilitation in a specialized facility, yet just more than one-third of these patients get access to these facilities.



IN CANADA,  
**A STROKE  
HAPPENS EVERY**

**10  
MINUTES**

## ADVANCING RECOVERY

At the **HEART AND STROKE FOUNDATION CENTRE FOR STROKE RECOVERY (HSF-CSR)** leading scientists are finding ways to help stroke survivors recover more quickly and more completely. Through the HSF-CSR, researchers working at different locations share knowledge and collaborate on initiatives to better understand and improve recovery after stroke. Devoted entirely to research into recovery from stroke, the HSF-CSR is unique in North America and is becoming a world leader in this important field. Researchers at the HSF-CSR, are:

- Developing a prescription for the right dose of strength training and aerobic exercise to help people living with stroke achieve optimal recovery;
- Determining the required mix of medication and therapy to reduce tightness and stiffness in the arms and legs following a stroke;
- Applying mild electrical currents to frozen muscles during physical therapy to stimulate the brain to reactivate movement;
- Using sophisticated imaging technology to measure the power of music to reorganize the brain and form new connections.

Find out more at [centreforstrokecovery.ca](http://centreforstrokecovery.ca)



**“WE TURN INFORMATION INTO A PLAN TO TREAT THE PATIENT.”**

**- Heart and Stroke Foundation-funded researcher Dr. Sean Dukelow**

Despite the challenges with access, stroke rehabilitation is reaching new heights and bright spots exist across the country. Heart and Stroke Foundation-funded research and centres of excellence are improving the outlook for many stroke survivors.

“We need rehabilitation research to better understand the difficulties someone is having after a stroke and then develop the treatments to help them get better,” says physiatrist Dr. Sean Dukelow, an assistant professor in the Faculty of Medicine and Hotchkiss Brain Institute at the University of Calgary and a Heart and Stroke Foundation-funded researcher, who uses robotics to help stroke survivors recover.

“We use a robotic model – a large robotic chair – that helps measure a patient’s improvement over time and helps deliver therapy,” Dr. Dukelow says.

“It can require tens of thousands of repetitions of a particular movement to relearn how to do it after stroke and the robot can help us determine the type and intensity of the rehabilitation needed for a patient to relearn how to use his arm. We use this information and turn that into a plan to treat the patient more effectively.”

Rehabilitation and recovery can be a long process with components that take place in a variety of settings. What many Canadians are not aware of is that recovery is a journey. According to the Heart and Stroke Foundation poll, one in three Canadians believe that once a person has experienced a stroke there is an initial period of a few months of recovery and after that they are unlikely to recover any more.

Nothing could be further from the truth. While the most rapid recovery occurs during the first three

to four months after a stroke, the recovery process is ongoing and improvements can continue over a much longer period.

“The brain has the capacity to repair and rewire itself over time,” says Dr. Dale Corbett, Scientific Director and CEO of the Heart and Stroke Foundation Centre for Stroke Recovery. “This is very good news because, until recently, it was thought that recovery only took place in a short window right after stroke. In fact, we now know that recovery goes on for months or years.”

An important part of recovery is preventing subsequent strokes. Having a stroke increases the risk of another. The greatest risk occurs immediately after a stroke and the risk stays high for five years. Overall, 30 per cent of survivors have a second stroke.

### **MOST STROKES CAN BE PREVENTED**

Of course the best story is one in which stroke does not happen at all. And the fact is that up to 80 per cent of premature heart disease and stroke can be prevented. But according to the Heart and Stroke Foundation poll, only one in three Canadians is aware that most strokes can be prevented.



**9 IN 10**  
**CANADIANS**  
**HAVE AT LEAST**  
**ONE RISK**  
**FACTOR FOR**  
**HEART DISEASE**  
**OR STROKE**

Not all risk factors for stroke can be controlled but Canadians can monitor and manage their blood pressure and make other changes that can help protect them against stroke. These include eating a healthy diet, being physically active, being smoke-free, reducing stress and limiting alcohol. Canadians can visit [makehealthlast.ca](http://makehealthlast.ca) to assess their risk and get tips on how to make healthy changes.

## **RESEARCH MILESTONES OVER THE DECADES**

**1968** – Heart and Stroke Foundation researcher Dr. Henry Barnett conducts the first clinical trial for the use of ASA as prevention for stroke.

**1999** – The Heart and Stroke Foundation funds research, education, and advocacy that lead to the use of the clot-busting drug tPA, which, if accessed quickly, can erase the effects of a stroke.

**2000** – The Heart and Stroke Foundation-supported Heart Outcomes Prevention Evaluation (HOPE) Study confirms that ACE inhibitors significantly reduce the rates of heart attack and stroke.

**2010** – Co-funded by The Heart and Stroke Foundation, the international INTERSTROKE study identifies 10 modifiable risk factors that account for 90 per cent of strokes, with high blood pressure posing the greatest risk.

**2011** – Heart and Stroke Foundation researcher Dr. Gustavo Saposnik develops a new online tool to help doctors predict a patient’s risk of death after a stroke.

**2012** – Heart and Stroke Foundation researchers Drs. Deirdre Dawson and Takako Fujioka launch a study to determine if music-making can repair the brain and improve hand function in stroke patients.

# THERE IS LIFE AFTER STROKE.



## THE STORY CONTINUES...

“The Heart and Stroke Foundation has renewed and expanded its commitment to stroke research, prevention and treatment, and to supporting stroke survivors and their families,” says Ian Joiner. “With our partners across the system and across the country we have made considerable progress around stroke and we know there is more to be done. Together we can make it happen.”

The stroke story is not over. Stroke is preventable. Stroke is treatable. And recovery from stroke is possible. For stroke survivors and their loved ones, advances in rehabilitation and recovery mean real hope for a better future. **THERE IS LIFE AFTER STROKE.**

## THE VITAL STATS ON STROKE

- There are an estimated 50,000 strokes in Canada each year. That is one stroke every 10 minutes.
- Every seven minutes in Canada, someone dies from heart disease or stroke.
- Stroke is the third leading cause of death in Canada. Six per cent of all deaths in Canada are due to stroke.
- About 315,000 Canadians – and their families – are living with the effects of stroke.
- Stroke is a leading cause of death and disability among adults.

# CALLS TO ACTION

## WHAT CAN CANADIANS DO TO CHANGE THEIR STROKE STORY?

### Protect yourself and make health last

- Monitor and manage your blood pressure.
- Make healthy changes to reduce your risk of stroke: be physically active, eat a healthy diet, be smoke-free, manage stress, limit alcohol consumption.
- Visit [makehealthlast.ca](http://makehealthlast.ca) and assess your risk.
- Know the signs of stroke and what to do in case of a stroke – visit [heartandstroke.ca/strokesigns](http://heartandstroke.ca/strokesigns).

### Stroke survivors and caregivers can learn more

Learn what to expect and what questions to ask at the hospital and afterwards and how to make healthy changes to prevent further stroke. The following resources at [heartandstroke.ca](http://heartandstroke.ca) can help:

- [Living with Stroke](#)
- [Let's Talk About Stroke](#) (PDF)
- [Tips and Tools for Everyday Living. A Guide for Stroke Caregivers](#)
- [A Patient's Guide to the Canadian Best Practice Recommendations for Stroke Care](#) (PDF)
- [Stroke Community Resource Directory](#)

## WHAT CAN GOVERNMENTS DO?

- Improve food labelling in the food service sector, including sodium and calorie counts on overhead menu boards and table menus.
- Invest in sodium public awareness campaigns.
- Implement low-sodium food procurement policies for public institutions.
- Implement a federal sodium monitoring mechanism.
- Improve post-stroke rehabilitation services. Many of these services, including doctors, nurses, physiotherapists, pharmacists, respiratory and speech-language therapists and dietitians, are not adequately covered outside hospital by provincial health programs.
- Increase financial, practical, and emotional supports for informal caregivers. While there are government programs and benefits to support caregivers, coverage is limited and eligibility is restricted.

## WHAT CAN HEALTHCARE PROVIDERS DO?

- Work with patients to develop personalized rehabilitation plans. Document rehabilitation practices, including timelines and type of therapy. Be aware of the community services available for patients upon discharge.
- Get involved in provincial efforts to improve stroke systems.
- Implement the [Canadian Best Practice Recommendations for Stroke Care](#).

## WHAT THE HEART AND STROKE FOUNDATION IS DOING

Addressing stroke is a critical part of the Heart and Stroke Foundation's strategy of empowering Canadians to lead full, healthy lives. The Foundation is committed to funding stroke research, helping Canadians prevent stroke, improving treatments for those who have a stroke, and helping people recover more quickly and more fully from stroke in the following ways:

- The Heart and Stroke Foundation advocates for stroke-related public policies, program funding, public awareness, treatments and improved post-stroke support services.
- The Heart and Stroke Foundation provides health information for Canadians in various formats including at [heartandstroke.ca](http://heartandstroke.ca).
- The Heart and Stroke Foundation has developed **resources and programs** for stroke survivors and their caregivers and families.
- The Heart and Stroke Foundation has been a key partner and funder of the Canadian Stroke Network (CSN) and is assuming responsibility for many of its functions as the CSN prepares to sunset in August 2014. These functions include the Canadian Stroke Strategy, Canadian Stroke Congress, **Quality of Stroke Care in Canada** (PDF) report and the **Canadian Best Practice Recommendations for Stroke Care**.
- The number of organized stroke programs in Canada has grown significantly over the past decade, due in large part to contributions by the Heart and Stroke Foundation to the Canadian Best Practice Recommendations for Stroke Care. There are more stroke units, more stroke prevention clinics and greater access to life-saving treatments.
- Over the last 60 years the Heart and Stroke Foundation has invested more than \$1.35 billion in heart and stroke research.
- **The Heart and Stroke Foundation Centre for Stroke Recovery** is a one-of-a-kind organization devoted entirely to research into recovery from stroke.

The Foundation urges all Canadians to make health last by taking action today to give themselves, their friends and families longer, healthier, fuller lives. Take the Heart&Stroke Risk Assessment at [makehealthlast.ca](http://makehealthlast.ca).

The Heart and Stroke Foundation, a volunteer-based health charity, leads in eliminating heart disease and stroke, reducing their impact through initiatives to prevent disease, save lives and promote recovery. Healthy lives free of heart disease and stroke. Together we will make it happen. [heartandstroke.ca](http://heartandstroke.ca)

**MAKE  
HEALTH  
LAST**

