

VASCULAR
VASCULAIRE 2013



Coming together for vascular health.

MAKING THE CONNECTION

A CALL TO ACTION ON VASCULAR HEALTH

Vascular diseases are the leading cause of preventable death and disability in Canada. Twenty four million Canadians have at least one risk factor for vascular disease while 10 million have three or more. Every Canadian is directly or indirectly affected by vascular disease or its complications.

EXECUTIVE SUMMARY

Making the Connection: A call to action on vascular health, is a direct result of Vascular 2013, Canada's first national congress for knowledge exchange and community building in vascular health. Vascular 2013 brought together Canada's leading experts and health care advocates from multiple sectors and health disciplines to focus on and expand our understanding of vascular disease prevention and management. Recognizing the urgent need for collective action on vascular health, organizational partners — Canadian Cardiovascular Society, Canadian Diabetes Association, Canadian Society of Endocrinology and Metabolism, Canadian Stroke Network, Heart and Stroke Foundation and Hypertension Canada — endorse *Making the Connection: A call to action on vascular health*.

OBJECTIVES

- 1) Focus attention on the scope and impact of vascular diseases in Canada
- 2) Identify unmet needs, and opportunities to improve prevention, treatment and recovery
- 3) Issue a call to collective action on vascular health by multiple stakeholders¹

There is tremendous potential to reduce the impact of vascular diseases through healthy public policy, supporting Canadians to make healthy lifestyle changes, and coordinating efforts across the continuum of care in a patient-focused manner. To reduce the deaths, human suffering and economic burden of vascular diseases we need to work together to find solutions using an organized, integrated approach.

A CALL TO ACTION ON VASCULAR HEALTH

Vascular health requires partnerships for action across many sectors – the health sector cannot solve this problem alone. We need to form a united front against this massive challenge to our society and economy, given population trends. Direct action including advocacy is required at all levels

to achieve meaningful impact on vascular health. The call to action below is a starting point for stakeholders to come together for vascular health.

For all Canadians – Make your health a priority. Adopt healthy behaviors. Advocate for healthy communities. Work with your health care provider to modify your vascular risk.

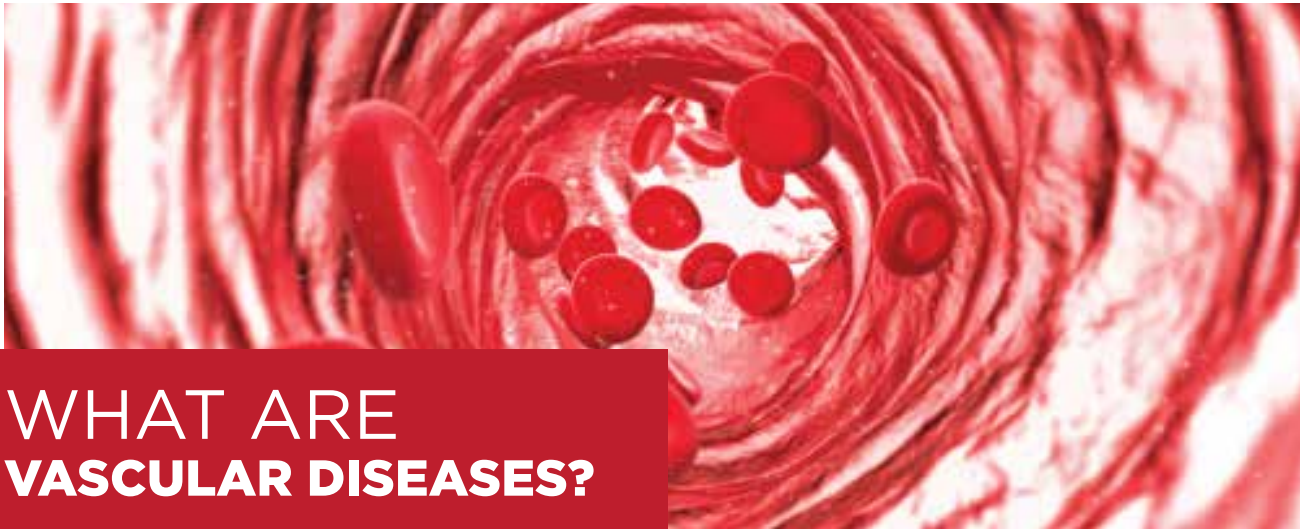
For health care practitioners – Maximize inter-professional collaboration to comprehensively manage vascular risk and prevention. Keep up-to-date on and follow best care practices. Collaborate with other sectors to advocate for and address legislative, social and built environment factors that impact population health.

For federal, provincial and municipal governments – Commit to sustained action on vascular health by implementing effective public policies and regulations that foster healthy food, physical activity and smoke-free environments. Be inclusive of the needs, interests and abilities of specific populations within their local contexts and settings. Monitor the impact of public policies and regulations on health, economic productivity and chronic care costs.

For researchers and academia – Develop approaches to address evidence gaps on vascular health issues. Foster the integration of knowledge across sectors, disciplines and conditions to impact vascular health through advocacy, programs and best practices.

For not-for-profit organizations – Maximize impact through joint action. Align messaging and resources for the public on vascular risk and chronic disease management. Build partnerships for action on vascular health, advocate for healthy public policies and translate knowledge on vascular health into programs that improve the health of Canadians.

For the private sector – Ensure a healthier and more productive workforce through implementation of healthy workplace policies and programs. Build intersectoral partnerships to advocate for healthy public policies. Partner with the health system to support prevention and screening. ■



WHAT ARE VASCULAR DISEASES?

Vascular diseases are a result of disorders in the blood vessels (large and small) throughout the entire human body. Stroke, heart attack, heart failure, dementia, kidney diseases, certain lung and eye conditions are all vascular diseases. Most vascular diseases share common risks (high blood pressure, diabetes, high cholesterol and obesity), which can be influenced by modifiable health behaviours such as unhealthy diet, smoking, lack of physical activity, stress and excess alcohol intake.

GUIDING PRINCIPLES FOR ACTION ON VASCULAR HEALTH

- Recognize the human and economic impact of vascular diseases, and the urgent need to act now
- Address health challenges across the care continuum (i.e. prevention, screening, treatment, secondary prevention, rehabilitation and recovery, end-of-life care)
- Adopt an integrated, patient-centred, interdisciplinary approach to maximizing vascular health in the patient's primary care "medical home"
- Collaborate across sectors (e.g. environment, sustainable development, urban planning, work places and education) as well as professional disciplines and break down silos
- Build on existing health system and community assets and programs to foster efficiency and best practices
- Be inclusive of multiple approaches to health, reflecting the Canadian Chronic Disease Prevention and Management Framework, including:
 - Healthy public policy
 - Supportive environments (legislative, social and built)
 - Health promotion
 - Community action
 - Personal skills and self management support
 - Health system design and delivery
 - Provider decision support
- Engage and support all Canadians to improve their vascular health
- Improve patient experience and seamless navigation through the healthcare system
- Be inclusive of high risk, vulnerable populations to ensure health equity across diverse contexts (urban/rural; Aboriginal; socio-economic; ethnocultural). Address the economic and social determinants which impact the risk of vascular diseases. ■

WHAT IS THE IMPACT OF VASCULAR DISEASES IN CANADA?

Vascular diseases are the leading cause of preventable death and disability in Canada². Every Canadian is directly or indirectly affected by vascular disease or its complications.

RISK FACTORS

Canada's aging population, combined with alarming trends in obesity, physical inactivity, high blood pressure and diabetes are expected to further increase the social and economic impact of vascular diseases in the coming decades, unless there are major changes in health policy. It is well documented that economic and social factors impact all chronic diseases including vascular health. Canadians in the lowest socio-economic group are more likely to die prematurely of circulatory disease³.

Twenty four million Canadians have at least one risk factor for vascular disease while 10 million have three or more⁴. Even more concerning is the increase in vascular risk factors among Canada's youth, and ethnically diverse populations.

Between 1994 and 2005, rates of high blood pressure among Canadians aged 35-49 increased by 127 per cent, diabetes by 64 per cent and obesity by 20 per cent⁵. The increases in these risk factors expose individuals to the alarming risk of early chronic disease development as well as decreased quality of life in their most productive years.

Five unhealthy behaviours – unhealthy diet, smoking, lack of physical activity, excess alcohol intake and stress – are well-established risks for more than 50 diseases⁶. Their impact on the body organs can be wide-spread if the

vessels supplying essential nutrients to various parts of the body are diseased.

Vascular risk factors and damage are major contributing factors for the 747,000 Canadians who are living with cognitive impairment including dementia⁷ as well as the 2.6 million who have kidney disease or are at risk⁸. More than 1.6 million Canadians are currently estimated to be living with heart disease or the consequences of stroke⁹. Every year almost 250,000 potential years of life are lost in Canada due to heart disease and stroke¹⁰. Vascular diseases affect not only the patients, but their spouses, families, friends and communities.

THE CURRENT VASCULAR HEALTH OF CANADIANS

As measured by the Public Health Agency of Canada using data from the Canadian Community Health Survey (CCHS), 40 per cent of Canadians can be considered to be at high risk of experiencing vascular diseases by virtue of having three or more modifiable vascular risk factors (Figure A)¹¹. Fifty per cent of Canadians can be considered to be at moderate risk of vascular disease by virtue of having 1-2 vascular risk factors and behaviours. As Canadians age

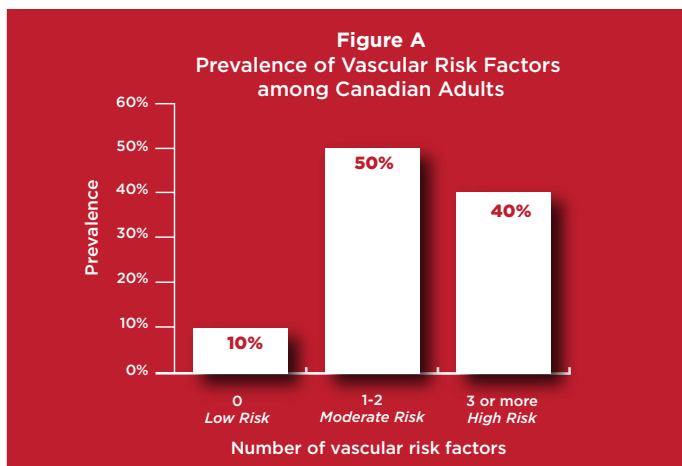
“Twenty four million Canadians have at least one risk factor for vascular disease.”

their cardiovascular health commonly deteriorates and their risk of vascular diseases often increases.

Only 10 per cent of Canadians are at truly low risk of developing vascular disease by virtue of exhibiting no vascular risk factors. Ninety per cent of Canadians are facing an unacceptable risk which could be modified by managing these health behaviours and factors. This illustrates the urgent need for progress.

Studies have shown that the prevalence of five or more healthy vascular behaviours and factors in an individual is associated with an 88 per cent reduction in the risk of death due to circulatory causes¹².

Onset of cardiovascular disease can be delayed by as much as 14 years if a low risk factor burden is maintained at middle age¹³. Lifestyle changes and prevention or treatment of chronic conditions such as hypertension can prevent an estimated 54 per cent of Alzheimer's cases in North America¹⁴. The Diabetes Prevention Program demonstrated a 58 per cent reduction in incidence of diabetes through intensive lifestyle modification¹⁵. Effective management of risk factors, in combination or alone, has also been shown to be very effective in reducing the risk of repeated vascular events, such as heart attack and stroke, as well as death^{16,17,18}.



Seven well-established vascular risk factors and behaviours known to increase the risk of vascular disease were included in the analysis: smoking, physical inactivity, inadequate consumption of vegetables and fruit, stress, being overweight or obese, having high blood pressure, and having diabetes. Source: Public Health Agency of Canada. Tracking Heart Disease and Stroke in Canada, 2009.

ECONOMIC IMPACT

Beyond the direct human costs, vascular diseases have a significant economic impact. Roughly 75 per cent of Canadians aged 65 and over have at least one chronic condition. Out of these, one in three report having three or more chronic conditions (almost always including hypertension). Those with three or more chronic conditions take six prescription medications on average, translating to 40 per cent of healthcare spending for Canadians aged 65 and above¹⁹. This increases the complexity in disease management and may hinder achievement of a healthy quality of life. ■

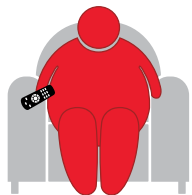


PREVALENCE AND ESTIMATED COST

OF VASCULAR DISEASES IN CANADA

**SUBSTANTIAL
PERSONAL
& FINANCIAL
IMPACT**

UNHEALTHY BEHAVIOURS



**85%
DON'T MEET
PHYSICAL ACTIVITY
GUIDELINES¹**

Physical inactivity related costs are **\$6.8 billion/year²**



**56.2%
CONSUME <5
SERVINGS OF FRUITS
AND VEGETABLES
DAILY¹**

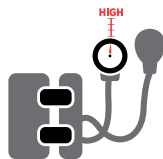
Economic burden of poor diet is **\$6.6 billion/year³**



**20.3%
SMOKE¹**

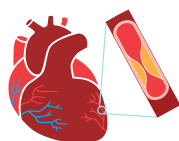
\$16 billion/year is spent on smoking-related diseases⁴

CONTRIBUTE TO RISK FACTORS



**7.4M
DIAGNOSED WITH
HIGH BLOOD
PRESSURE⁵**

High blood pressure costs **\$4 billion/year⁸**



**45%
HAVE HIGH
CHOLESTEROL
LEVELS⁶**



**2.7M
ARE LIVING
WITH DIABETES⁷**

Diabetes cost **\$11.7 billion** in 2010⁹



**60%
ARE EITHER
OVERWEIGHT OR
OBESE¹**

Obesity cost **\$4.6 billion** in 2008¹⁰



**315,000
ARE LIVING WITH
THE EFFECTS OF
STROKE¹¹**

Stroke costs **\$3.6 billion/year¹⁶**



**150,000
ARE LIVING WITH
VASCULAR
DEMENCIA¹²**



**747,000
ARE LIVING WITH
COGNITIVE
IMPAIRMENT¹²**

Dementia cost **\$15 billion** in 2008¹²



**1.3M
ARE LIVING WITH
HEART
DISEASE¹³**



**500,000
ARE LIVING WITH
HEART
FAILURE¹⁴**

Direct & indirect costs of cardio-vascular disease are **\$21 billion/year¹⁷**



**2.6M
EITHER HAVE
KIDNEY DISEASE
OR ARE AT RISK¹⁵**

\$1.4 billion/year is spent on hemodialysis¹⁵

Despite overwhelming impact of vascular health issues it is challenging to have an accurate estimate of the collective prevalence and economic burden of vascular diseases in Canada because there is a gap in available data. Estimates presented in this infographic cannot be considered mutually exclusive and therefore have not been added up to present an overall picture. To avoid under-estimation of the true burden, comprehensive data collection and analysis is required. This schematic illustrates that 3 health behaviours (physical inactivity, poor diet, smoking) are common to development of risk factors (high blood pressure, high cholesterol, diabetes, obesity) which in turn lead to development of vascular disease across various organ systems.

A CALL TO ACTION ON VASCULAR HEALTH

There is tremendous potential to reduce the burden of vascular diseases through healthy public policy, supporting Canadians to make healthy lifestyle changes, and coordinating efforts across the continuum of care in a patient-focused manner.

Vascular health requires partnerships for action across many sectors – the health sector cannot solve this problem alone. We need to form a united front against this massive challenge to our society and economy, given population health trends. Direct action including advocacy is required at all levels to achieve meaningful impact on vascular health. The call to action below is a starting point for stakeholders to come together for vascular health.

FOR ALL CANADIANS

Make your health a priority. Adopt healthy behaviours. Advocate for healthy communities. Work with your health care provider to modify your vascular risk.

- Talk to your health care provider about your vascular risk and things you can do to reduce your personal risk
- Adopt healthy behaviours (healthy diet, physical activity, being smoke-free)
- Be your own advocate. Talk to your health care provider about how you can play an

active role in monitoring and managing your overall health

- Advocate for healthy public policies so you and your family live, work and play in a healthy food, physical activity friendly and smoke-free environment

FOR HEALTH CARE PRACTITIONERS

Maximize inter-professional collaboration to comprehensively manage vascular risk and prevention. Collaborate with other sectors to advocate for and address legislative, social and built environment factors that impact population health.

- Take a holistic approach to chronic disease prevention and management for patients being served through their “medical home”
- Build interprofessional collaboration to provide more seamless and integrated care to improve health outcomes and patient experience
- Advocate for healthy public policies so you and your family live, work and play in a healthy food, physical activity friendly and smoke-free environment
- Keep up-to-date on and follow best care practices

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We need to form a united front against this massive challenge.

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interests and abilities of specific populations, within their local contexts and settings

- Link tri-level government programs and funding to improved health outcomes
- Comprehensively capture and report on national and regional data on vascular risk
- Fund a national research network in vascular health
- Encourage policies that support the production of, and facilitate access to foods that contribute to healthy diet, and provide

greater opportunities for utilization of healthy local agriculture products

- Increase focus on physical activity, nutrition, and health education in schools to address the increasing incidence of vascular risk in children and youth. Mandate healthy school environments i.e. healthy diet, physical activity and smoke-free premises to reduce future vascular risk
- Implement policies and monitor outcomes of community environment and education programs that support Canadians to engage in healthy behaviours

FOR GOVERNMENT

Commit to sustained action on vascular health by implementing effective public policies and regulations that foster healthy food, physical activity and smoke-free environments. Monitor the impact of public policies and regulations on health, productivity and chronic care costs.

FEDERAL AND PROVINCIAL

- Transition from voluntary initiatives and approaches to address unhealthy diets (i.e. saturated fats, trans fats, sugar, sodium content of food) to more comprehensive regulatory approaches
- Take action on marketing of unhealthy foods and beverages to children
- Develop comprehensive population health strategies that address the inter-relationships between poverty, socioeconomic disparity and health and assess their impact
- Implement policies and programs that encourage all Canadians to engage in healthy lifestyles, tailored to the needs,

MUNICIPAL

- Create infrastructure that supports physical activity and programs that support communities to adopt and maintain healthy behaviours
- Enact by-laws to create healthy food, physical activity and smoke-free environments that reduce vascular risk at the local/regional level
- Support public and home-based adaptations to facilitate physical fitness activities for special needs populations

FOR RESEARCHERS AND ACADEMIA

Develop approaches to address evidence gaps on vascular health issues. Foster knowledge mobilization across sectors and disciplines to impact vascular health through advocacy, programs and best practices.

- Foster collaboration across academic disciplines to implement updated and integrated curricula
- Emphasize integration and collaboration for vascular health across academic and professional disciplines in continuing education programs
- Integrate knowledge across sectors, disciplines and conditions
- Implement research on new technologies or approaches that support people to self-manage their health (i.e., personalized genetic/health information; incentives for healthy behaviour; health monitoring and tracking through mobile technology; tele-rehab or web-based monitoring and counseling techniques)
- Build regional and national networks for data collection and research on vascular health
- Contextualize and translate international best practices in vascular health for the Canadian population
- Develop innovative tools for implementation (knowledge to action)

“

We need to build partnerships for action on vascular health.

”

- Advocate for healthy public policies to support a healthy food, physical activity and smoke-free environment

FOR NOT-FOR-PROFIT ORGANIZATIONS

Maximize impact through joint action. Align messaging and resources for the public on vascular risk and chronic disease management. Build partnerships for action on vascular health, advocate for healthy public policies and translate knowledge on vascular health into programs that improve the health of Canadians.

- Educate the public on vascular health issues
- Advocate for healthy public policies and program funding to support healthy food, physical activity and smoke-free environments
- Partner with patients, governments, health system leaders, private enterprise and research stakeholders and with each other in the translation and implementation of knowledge in vascular health
- Implement programs to encourage Canadians to engage in healthy lifestyles, tailoring such programs to needs and interests of specific populations and different age groups

FOR THE PRIVATE SECTOR

Ensure a healthier and more productive workforce through implementation of healthy workplace policies and programs. Build intersectoral partnerships to advocate for healthy public policies. Partner with the health system to support prevention and screening. ■

ACKNOWLEDGEMENTS

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Appendix 1: The Current Vascular Health of Canadians

To determine the current state of the vascular health of Canadians, one can measure the number of individuals in Canada who have one or more of seven well-established vascular risk factors and behaviours known to increase the risk of vascular disease: smoking, physical inactivity, inadequate consumption of vegetables and fruit, stress, being overweight or obese, having high blood pressure, and having diabetes.

Footnotes

¹Vascular health stakeholders include patients and their families, health care professionals, health system policy and management leads, government, private industry, non-profit organizations; community and professional associations.

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