



## Training/Practice Training/Health Policy and Promotion

# An Integrated Approach for Vascular Health: A Call to Action

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### ABSTRACT

Vascular diseases such as stroke, myocardial infarction, most causes of heart failure, dementia, peripheral arterial disease, certain kidney, and many lung and eye conditions are a result of disorders in the blood vessels (large and small) throughout the entire human body. Vascular diseases are the leading cause of preventable death and disability in Canada. Most vascular diseases share common risk factors (high blood pressure, diabetes, dyslipidemia, and obesity), which can be influenced by modifiable health behaviours such as unhealthy diet, smoking, lack of physical activity, and stress. Ninety percent of Canadians face an increased risk, which could be modified by managing these health behaviours and 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 effect of vascular diseases in the coming decades,

### RÉSUMÉ

Les maladies vasculaires telles que l'accident vasculaire cérébral, l'infarctus du myocarde, la plupart des causes d'insuffisance cardiaque, la démence, la maladie artérielle périphérique, certaines maladies rénales, et plusieurs maladies pulmonaires et oculaires sont le résultat de troubles des vaisseaux sanguins (grands et petits) de l'ensemble du corps humain. Les maladies vasculaires sont la cause principale de décès et d'incapacités évitables au Canada. La plupart des maladies vasculaires partagent des facteurs de risque communs (pression artérielle élevée, diabète, dyslipidémie et obésité), qui peuvent être influencés par des comportements modifiables en matière de santé tels que le régime alimentaire malsain, le tabagisme, le manque d'activité physique et le stress. Quatre-vingt-dix pour cent des Canadiens font face à un risque accru, qui pourrait être modifié par la prise en charge de ces comportements en matière de santé et de ces

Vascular diseases are the leading cause of preventable death and disability in Canada<sup>1</sup> and are a result of disorders in the blood vessels (large and small) throughout the entire human body. Stroke, myocardial infarction, most causes of heart failure, dementia, peripheral arterial disease, and certain kidney, lung, and eye conditions are vascular diseases.

Canadians age, their cardiovascular health commonly deteriorates and their risk of vascular diseases increases. Only 10% of Canadians are at truly low risk of developing vascular disease by virtue of exhibiting no vascular risk factors. Fully, 90% of Canadians face an unnecessarily increased risk (Fig. 1), which could be modified by managing these health behaviours and risk factors. This underscores the urgent need for progress.

### Risk Factors

According to the Public Health Agency of Canada using data from the Canadian Community Health Survey, 40% of Canadians can be considered to be at high risk of experiencing a vascular disease by virtue of having 3 or more modifiable vascular risk factors (such as unhealthy diet, smoking, lack of physical activity, and stress). Fifty percent of Canadians can be considered to be at moderate risk of vascular disease by virtue of having 1-2 vascular risk factors and behaviours.<sup>2</sup> As

### Health and Economic Effect

Vascular diseases affect patients, their families, friends, and communities. Canada's aging population, combined with alarming trends in obesity, physical inactivity, high blood pressure, and diabetes will amplify the social and economic burden of vascular diseases in coming decades, unless there are major changes in health policy. Twenty-four million Canadians have at least 1 risk factor for vascular disease and 10 million have 3 or more.<sup>2</sup> Even more concerning is the increase in vascular risk factors among Canada's youth, and ethnically diverse but often socially disadvantaged populations. Between 1994 and 2005, rates of high blood pressure among Canadians aged 35-49 years increased by 127%, diabetes by 64%, and obesity by 20%.<sup>3</sup> The increases in these risk factors

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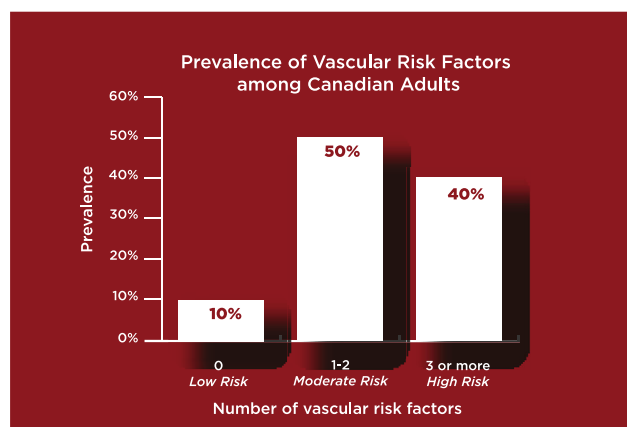
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unless there are major changes in health policy. Even more concerning is the increase in vascular risk factors among Canada's youth, and ethnically diverse populations. Vascular diseases affect not only the patient, but also place burdens on their spouses, families, friends, and communities. Tremendous potential exists to reduce the effects 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 including government, health care practitioners, academia, not-for-profit organizations, and the private sector. The health sector alone cannot solve this problem.

expose individuals to the alarming risk of early chronic disease development and decreased quality of life in their most productive years. It is also well documented that economic and social factors affect all chronic diseases including vascular health.

Beyond the direct human costs, vascular diseases have a significant economic effect. Approximately 75% of Canadians aged 65 years and older have at least 1 chronic condition. Indeed, fully, one-third report having 3 or more chronic conditions (almost always including hypertension). Those with 3 or more chronic conditions take an average of 6 prescription medications, translating to 40% of health care spending for Canadians aged 65 and older.<sup>4</sup> This increases the complexity in disease management and often hinders achieving a healthy quality of life (Fig. 2).



**Figure 1.** 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. Adapted from Public Health Agency of Canada<sup>2</sup> with permission from the Vascular Declaration Working Group and the Heart and Stroke Foundation of Canada.

facteurs de risque. Le vieillissement de la population canadienne, combinée aux tendances alarmantes liées à l'obésité, à l'inactivité physique, à la pression artérielle élevée et au diabète devrait entraîner davantage de conséquences sociales et économiques liées aux maladies vasculaires au cours des prochaines décennies, à moins qu'il y ait des changements majeurs dans les politiques de santé. Encore plus inquiétante est l'augmentation des facteurs de risque vasculaire chez les jeunes du Canada et les populations d'origines ethniques diverses. Les maladies vasculaires ne touchent pas seulement les patients, mais imposent également un fardeau aux conjoints, à la famille, aux amis et à la communauté. Il existe un potentiel énorme pour réduire les effets des maladies vasculaires en adoptant des politiques publiques favorables à la santé qui encouragent les Canadiens à faire des changements à leur mode de vie en matière de santé et la coordination des efforts pour assurer un continuum de soins axés sur le patient. La santé vasculaire nécessite des partenariats pour agir dans plusieurs secteurs dont le gouvernement, les professionnels de la santé, le milieu universitaire, les organisations sans but lucratif et le secteur privé. Le secteur de la santé ne peut résoudre seul ce problème.

### Call to Action

Studies have shown that the prevalence of 5 or more healthy vascular behaviours in an individual is associated with an 88% reduction in the risk of death due to circulatory causes.<sup>5</sup> Thus, there is tremendous potential to reduce the effect 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. Vascular health requires partnerships for action across many sectors—the health sector cannot alone solve this problem. Direct action including advocacy is required at all levels to achieve a meaningful effect on vascular health.

Specific recommendations for stakeholders to come together for vascular health are included in the following sections.

#### 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.

#### For health care practitioners

Maximize interprofessional 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 affect population health.

#### For government

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

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