

Non-Communicable Diseases Watch

September 2018



Overview of Cardiovascular Diseases

Key Messages

- ※ Cardiovascular diseases (CVD) are the number one cause of death globally. In 2015, an estimated 17.7 million people died from CVD, mainly due to coronary heart disease and stroke.
- ※ In Hong Kong, CVD accounted for about one in every five registered deaths in 2017. While CVD risk factors are prevalent among the Hong Kong general population, the Population Health Survey 2014/15 of the Department of Health estimates that among every 1 000 persons aged 30–74, 106 persons may suffer from CVD event over the next 10 years.
- ※ In May 2018, the Hong Kong SAR Government launched “Towards 2025: Strategy and Action Plan to Prevent and Control Non-communicable Diseases in Hong Kong” announcing a list of committed actions. Of the 9 NCD targets to be achieved by 2025, all are related to CVD prevention and control, including Target 8: Prevent heart attacks and strokes through drug therapy and counselling, and pursuing to achieve the ultimate Target 1: Reduce premature mortality from non-communicable diseases comprising CVD by 2025.
- ※ Regarding the prevention and treatment of CVD, the Government will strengthen the health system at all levels, in particular a comprehensive primary care for prevention, early detection and management of CVD based on the family doctor model; regularly review and update drug lists and clinical protocols based on scientific and clinical evidence to ensure equitable access by patients to cost-effective drugs and therapies of proven safety and efficacy for treatment of CVD in all public hospitals and clinics; and organise large scale and systematic health communication campaigns to raise public health literacy.
- ※ Individuals too can contribute to the fight against CVD by choosing to live in healthy ways.



香港非傳染病防控策略及行動計劃
Strategy and Action Plan to
Prevent and Control NCD in Hong Kong



Target 8 :
Prevent heart attacks and strokes
through drug therapy and counselling



Target 1:
Reduce premature mortality
from non-communicable diseases,
including CVD

Overview of Cardiovascular Diseases

Cardiovascular diseases (CVD) are a group of disorders of the heart and blood vessels. Major types of CVD include hypertension, heart diseases (such as coronary heart disease, rheumatic heart disease and congenital heart disease), stroke, peripheral vascular disease, deep vein thrombosis and pulmonary embolism. Globally, CVD are the number one cause of death and remain a major cause of premature death and chronic disability for all regions of the world.^{1,2} In 2015, it was estimated that there were over 422 million people living with CVD² and 17.7 million people died from CVD (mainly due to coronary heart disease and stroke).¹ While at least three-quarters of the world's deaths from CVD occur in low- and middle-income countries,¹ CVD also tend to have a greater impact on the more socioeconomic deprived population groups in high-income countries.³

Risk Factors of CVD

A number of modifiable and non-modifiable risk factors for CVD have been recognised (Box 1).¹ These risk factors can act independently to cause CVD, or they can act in combination to produce a synergistic effect on the risk of CVD. The more risk factors are present in an individual, the higher the risk of cardiovascular events. In Asia, the most potent modifiable risk factors for CVD include high blood pressure, smoking, diabetes, and high serum cholesterol.⁴ Overweight and obesity is also a major risk factor for CVD.⁵ More importantly, clustering of CVD risk factors are common in Asian populations.⁶

Box 1: Major risk factors for CVD

Modifiable risk factors

- Smoking
- Physical inactivity
- Unhealthy diet
- Harmful use of alcohol
- Overweight and obesity
- Elevated blood pressure
- Elevated blood glucose/ diabetes
- Elevated blood lipids

Non-modifiable risk factors

- Advancing age
- Gender
- Hereditary or family history
- Ethnicity

Local Situation

Largely because of sustained anti-smoking efforts with reduced smoking rates, better detection along with wider availability of effective treatment for CVD (such as use of proven pharmacologic therapies to treat hypertension or hypercholesterolaemia and revascularization), the age-standardised death rates of CVD in Hong Kong decreased significantly from 93.4 per 100 000 standard population in 2001 to 56.0 per 100 000 standard population in 2017. However, CVD remain as a major public health issue in Hong Kong. In 2017, CVD accounted for 9 786 registered deaths, or about one in every five deaths.⁷ Between 2008 and 2017, the Thematic Household Surveys conducted by the Census and Statistics Department showed that the number of community-dwelling people with hypertension, heart diseases and stroke as told by practitioners of Western medicine increased about 55%, 21% and 13% respectively.^{8, 9} In 2016/17, an estimated 953 500 people had doctor-diagnosed hypertension, 145 900 people had doctor-diagnosed heart diseases and 50 000 people had doctor-diagnosed stroke.⁹

Moreover, the Population Health Survey 2014/15 of the Department of Health (DH) revealed that CVD risk factors were prevalent among the Hong Kong general population. Adopting the Framingham risk model with assessment based on specific criteria (including gender, age, smoking status, levels of systolic blood pressure and blood cholesterol) to predict the risk of all cardiovascular outcomes, the survey reported that the mean CVD risk among persons aged 30–74 was 10.6%, i.e. among every 1 000 persons aged 30–74, 106 persons may suffer from CVD event over the next 10 years. Overall, 16.4% (29.1% for males; 5.1% for females) of persons aged 30–74 were classified as high-risk with $\geq 20\%$ risk of developing CVD within 10 years. Of note, the impact of CVD was not limited to elderly population. As shown in Table 1, almost three in every ten persons aged 45–54 were classified as medium- or high-risk according to the Framingham assessment.¹⁰

Table 1: CVD risk level among non-institutionalised persons aged 30–74 by age group over the next 10 years based on the Framingham risk model

Age group	Risk level*		
	Low risk	Medium risk	High risk
30–44	98.2%	1.5%	0.3%
45–54	71.7%	23.0%	5.3%
55–64	44.7%	27.9%	27.4%
65–74	15.4%	31.5%	53.1%
30–74	65.4%	18.3%	16.4%

Base: All respondents aged 30–74 who had participated in the health examination.

Note: Definition of CVD risk levels over the next 10 years based on the Framingham risk model for CVD risks—

Low risk: CVD risk $< 10\%$ over the next 10 years; Medium risk: CVD risk $\geq 10\%$ and $< 20\%$ over the next 10 years;

High risk: CVD risk $\geq 20\%$ over the next 10 years.

Source: Population Health Survey 2014/15, Department of Health.

Reduce Premature Mortality from CVD

The Government of the Hong Kong Special Administrative Region is committed to protect population health and to reduce the disease burden of NCD, including CVD. On 4 May 2018, the Government launched “Towards 2025: Strategy and Action Plan to Prevent and Control Non-communicable Diseases in Hong Kong” (SAP) announcing 9 local targets to be achieved by 2025, all of which are related to CVD prevention and control (Box 2).

The SAP has put forward a systematic portfolio of policies, programmes and actions that Hong Kong will pursue to achieve the ultimate Target 1: A 25% relative reduction in risk of premature mortality (i.e. dying between ages 30 and 70) from the four non-communicable diseases (including CVD) by 2025.¹¹

Box 2: 9 local NCD targets by 2025



Target 1

A 25% relative reduction in risk of premature mortality from cardiovascular diseases, cancers, diabetes, or chronic respiratory diseases



Target 2

At least 10% relative reduction in the prevalence of binge drinking and harmful use of alcohol (harmful drinking/ alcohol dependence) among adults and in the prevalence of drinking among youth



Target 3

A 10% relative reduction in the prevalence of insufficient physical activity among adolescents and adults



Target 4

A 30% relative reduction in mean population daily intake of salt/sodium



Target 5

A 30% relative reduction in the prevalence of current tobacco use in persons aged 15+ years



Target 6

Contain the prevalence of raised blood pressure



Target 7

Halt the rise in diabetes and obesity



Target 8

Prevent heart attacks and strokes through drug therapy and counselling



Target 9

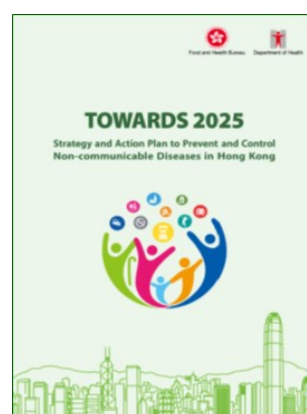
Improve availability of affordable basic technologies and essential medicines to treat major NCD

Regarding the prevention and treatment of CVD, the Government will strengthen the health system at all levels, in particular a comprehensive primary care for prevention, early detection and management of CVD based on the family doctor model; review and update drug lists and clinical protocols regularly based on scientific and clinical evidence to ensure equitable access by patients to cost-effective drugs and therapies of proven safety and efficacy for treatment of CVD in all public hospitals and clinics; and organise large scale and systematic health communication campaigns to raise public awareness of lifestyle factors (such as healthy diet, physical activity, avoidance of tobacco and alcohol), their relevance to biomedical states (such as body weight, blood pressure, blood cholesterol and blood glucose) and CVD risk, encouraging the public to make changes for better health.¹¹

Individuals too can contribute to the fight against CVD by choosing to live in healthy ways. They include:

- ✓ **Eating a heart-healthy diet** that is low in saturated and trans fats, salt and sugars; and rich in fruit, vegetables and whole-grains;
- ✓ **Being physically active**;
- ✓ **Maintaining a healthy weight and waist circumference.** For Chinese adults in Hong Kong, aim for a body mass index (BMI) between 18.5 and 22.9 kg/m², and a waist circumference of less than 90 cm (~ 36 inches) for men and less than 80 cm (~ 32 inches) for women;
- ✓ **No smoking**;
- ✓ **Refraining from alcohol consumption.** It is noteworthy that evidence on possible heart benefit of alcohol remains controversial. Moreover, as a cancer-causing agent, alcohol should not be considered as something to protect the heart.

For more information about the Government's key initiatives and specific actions to prevent heart diseases and strokes, please refer to the SAP which can be found at the Change for Health Website of DH <https://www.change4health.gov.hk/en/saptowards2025/>.



References

1. Cardiovascular diseases (CVDs). Geneva: World Health Organization, May 2017.
2. Roth GA, Johnson C, Abajobir A, et al. Global, regional, and national burden of cardiovascular diseases for 10 causes, 1990 to 2015. *J Am Coll Cardiol* 2017; 70(1):1-25.
3. de Mestral C, Stringhini S. Socioeconomic status and cardiovascular disease: an update. *Curr Cardiol Rep* 2017; 19(11):115.
4. Ueshima H, Sekikawa A, Miura K, et al. Cardiovascular disease and risk factors in Asia: a selected review. *Circulation* 2008; 118(25):2702-9.
5. Lee CM, Colagiuri S, Ezzati M, Woodward M. The burden of cardiovascular disease associated with high body mass index in the Asia-Pacific region. *Obes Rev* 2011; 12(5):e454-9.
6. Peters SAE, Wang X, Lam TH, et al. Clustering of risk factors and the risk of incident cardiovascular disease in Asian and Caucasian populations: results from the Asia Pacific Cohort Studies Collaboration. *BMJ Open* 2018; 8(3):e019335.
7. Mortality Statistics 2001-2017 (provisional). Hong Kong SAR: Department of Health and Census and Statistics Department.
8. Thematic Household Survey Report No. 41: Health Status of Hong Kong Residents. Hong Kong SAR: Census and Statistics Department.
9. Thematic Household Survey Report No. 63: Health Status of Hong Kong Residents. Hong Kong SAR: Census and Statistics Department.
10. Population Health Survey 2014/2015. Hong Kong SAR: Department of Health.
11. Towards 2025: Strategy and Action Plan to Prevent and Control Non-communicable Diseases in Hong Kong. Hong Kong SAR: Food and Health Bureau, May 2018.



World Heart Day is celebrated on 29 September each year. Created by the World Heart Federation, World Heart Day informs people around the globe that CVD, including heart disease and stroke, is the world's leading cause of death claiming millions of lives each year, and highlights the actions that individuals can take to prevent and control CVD. By controlling risk factors such as tobacco use, unhealthy diet and physical inactivity, at least 80% of premature deaths from heart disease and stroke could be prevented.

This year's World Heart Day is asking people around the world to make a promise ... **FOR MY HEART, FOR YOUR HEART, FOR ALL OUR HEARTS**. While the Hong Kong SAR Government undertakes to take the lead to implement an action plan to prevent and control NCD (including CVD), individuals too can make a promise to live a more heart-healthy life.



- ✓ To cook and eat more healthily
- ✓ To do more exercise and encourage children to be more physically active
- ✓ To say no to smoking and help the loved ones to stop

To know more about the World Heart Day 2018 and relevant information, please visit <https://www.world-heart-federation.org/world-heart-day>.

Non-Communicable Diseases (NCD) WATCH is dedicated to promote public's awareness of and disseminate health information about non-communicable diseases and related issues, and the importance of their prevention and control. It is also an indication of our commitments in responsive risk communication and to address the growing non-communicable disease threats to the health of our community. The Editorial Board welcomes your views and comments. Please send all comments and/or questions to so_dp3@dh.gov.hk.

Editor-in-Chief

Dr Regina CHING

Members

Dr Thomas CHUNG	Dr Ruby LEE
Dr Cecilia FAN	Mr YH LEE
Dr Anne FUNG	Dr Eddy NG
Dr Rita HO	Dr Lilian WAN
Dr Karen LEE	Dr Karine WONG