3

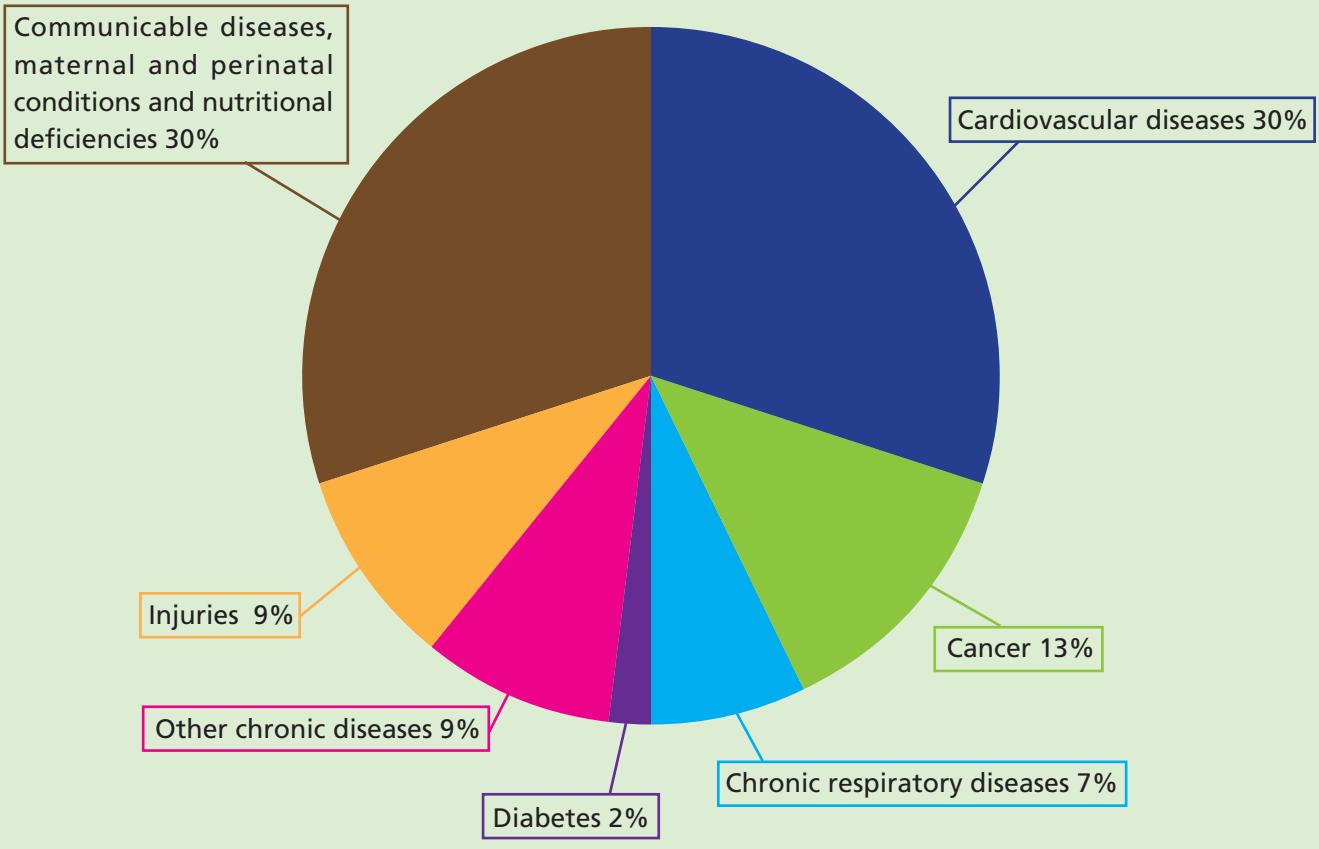
Global Perspective on Non-communicable Disease Prevention and Control

3

The Neglected Epidemic

3.1 NCD, including cardiovascular diseases (CVD), cancer, diabetes mellitus, chronic respiratory diseases and other chronic diseases, accounted for more than three-fifths (61%) of the estimated 58 million deaths worldwide in 2005 (Exhibit 17) and about half (46%) of the global burden of diseases.[1] The WHO projects that of 64 million people who will die in 2015, 41 million will die of a chronic disease unless urgent action is taken.

Exhibit 17: Projected main causes of death, worldwide, 2005



(Source: WHO, 2005)

3.2 The majority of the disease burden is attributable to a few risk factors which either work independently or in combination. For example, of the 7 million deaths from cancer worldwide in 2001, an estimated 2.43 million (35%) were attributed to nine potentially modifiable behavioural and environmental determinants, including overweight and obesity, low fruit and vegetable intake, physical inactivity, tobacco use, alcohol misuse, urban air pollution, unsafe sex, indoor smoke from household use of solid fuels, and contaminated injections in healthcare settings;[2] three-quarters of CVD can be attributed to the major risk factors, including tobacco use, inactive lifestyle, low fruit and vegetable intake, high blood pressure and high cholesterol.[1]

3.3 Disability Adjusted Life Years (DALYs) is often used as an indicator of burden of disease to quantify and measure the state of health of a population in order to judge which interventions to improve health deserve the highest priority for action. DALYs reflects the total amount of healthy life lost, from all causes, whether from premature mortality or from some degree of disability during a period of time. For the developed countries, tobacco use is the leading risk factor, accounting for about 12% of disease burden measured by DALYs. While high blood pressure and alcohol misuse each accounts for 9-11%, high cholesterol and high body mass index each accounts for 7-8% of DALYs (Exhibit 18).[3]

Exhibit 18: Ten leading risk factors as percentage causes of disease burden measured in DALYs by level of development and type of affected outcome[3]

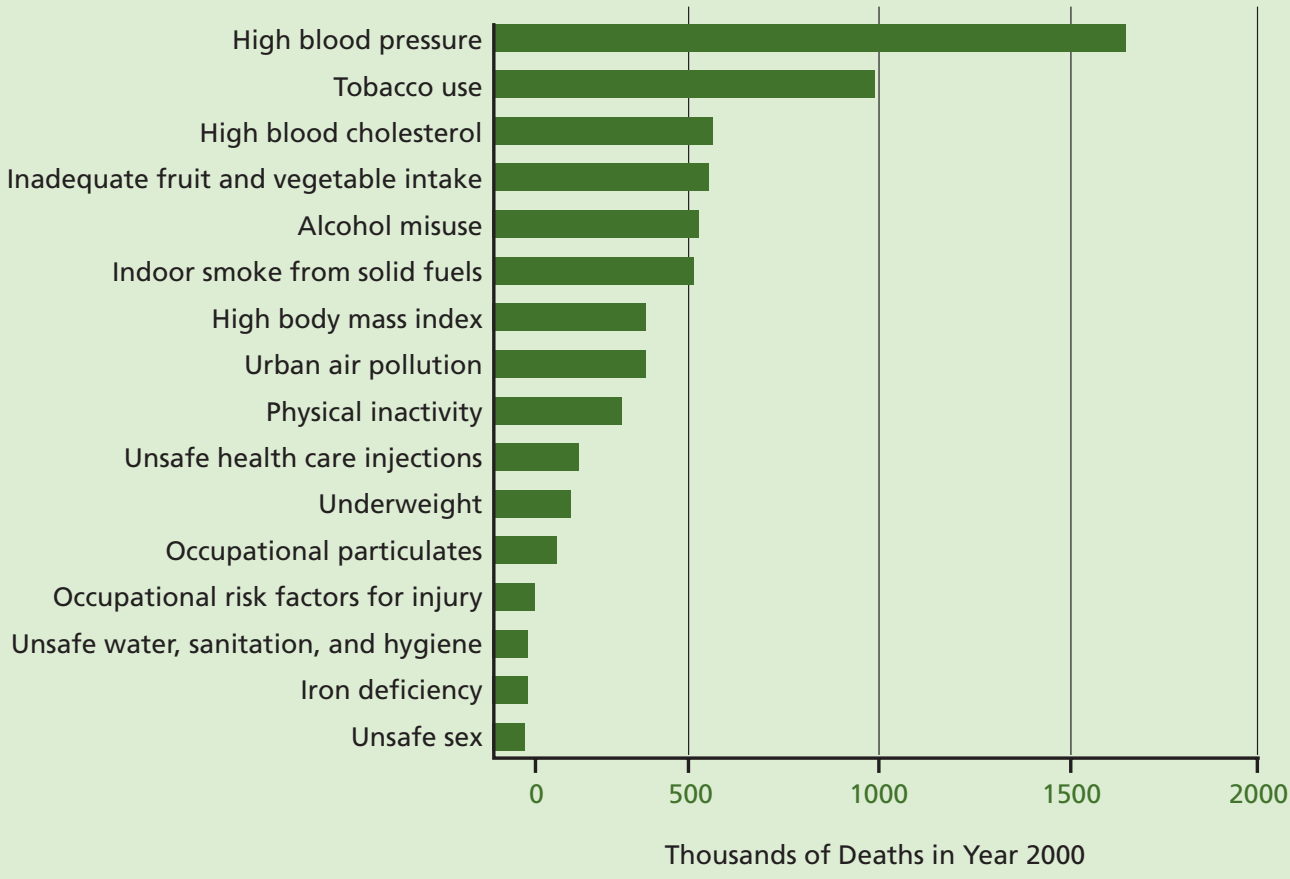
Rank	Developing countries		Developed countries
	High mortality countries	Low mortality countries	
1	Underweight (14.9%)	Alcohol misuse (6.2%)	Tobacco use (12.2%)
2	Unsafe sex (10.2%)	Underweight (5.0%)	High blood pressure (10.9%)
3	Unsafe water (5.5%)	High blood pressure (4.0%)	Alcohol misuse (9.2%)
4	Indoor smoke (3.7%)	Tobacco use (3.1%)	High cholesterol (7.6%)
5	Zinc deficiency (3.2%)	High body mass index (2.7%)	High body mass index (7.4%)
6	Iron deficiency (3.1%)	High cholesterol (2.1%)	Low fruit and vegetable intake (3.9%)
7	Vitamin A deficiency (3.0%)	Iron deficiency (1.9%)	Physical inactivity (3.3%)
8	High blood pressure (2.5%)	Low fruit and vegetable intake (1.9%)	Illicit drug use (1.8%)
9	Tobacco use (2.0%)	Indoor smoke from solid fuels (1.8%)	Underweight (0.8%)
10	High cholesterol (1.9%)	Unsafe water (1.7%)	Iron deficiency (0.7%)

(Source: World Health Report, 2002)

3.4 In the year 2000, over 1 600 000 deaths within the Western Pacific Region were attributed to high blood pressure, about 1 000 000 to tobacco use and over 500 000 each to high blood cholesterol and inadequate fruit and vegetable intake (Exhibit 19).[3] In light of the fact that at least 80% of heart diseases, stroke, and type 2 diabetes mellitus, and 40% of cancer could be avoided through healthy diet, regular physical activity, and avoidance of tobacco use,[4] the development of an integrated approach that targets major common risk factors will be the most effective way to prevent and control NCD.

3.5 Such integrated approach should respond not only to the need for intervention on major common risk factors aiming to reduce premature mortality and morbidity, but also to integrate primary, secondary and tertiary prevention. This can be achieved by considering what steps need to be taken along the disease pathway to start with health promotion and disease prevention, and include treatment and self care as well as engage across all sectors and disciplines.

Exhibit 19: Deaths attributable to selected leading risk factors in the Western Pacific, 2000



(Source: World Health Report 2002)

International Experience

3.6 The WHO accords high priority to prevention and control of NCD in its work programmes. The following synopsis of international experience reveals some of the successful elements for NCD prevention and control strategies that can be adopted for Hong Kong. The resolutions endorsed over the years by the World Health Assembly (Exhibit 20) serve as good references for building the Hong Kong strategic framework for the prevention and control of NCD.

Exhibit 20: WHO resolutions relevant to the Hong Kong framework

WHA 51.12	Health Promotion (1998)
WHA 53.17	Prevention and Control of Noncommunicable Diseases (2000)
WHA 56.1	WHO Framework Convention on Tobacco Control (2003)
WHA 57.16	Health Promotion and Healthy Lifestyles (2004)
WHA 57.17	Global Strategy on Diet, Physical Activity and Health (2004)
WHA 58.16	Strengthening Active and Healthy Ageing (2005)
WHA 58.22	Cancer Prevention and Control (2005)
WHA 60.23	Prevention and Control of Noncommunicable Diseases: Implementation of the Global Strategy (2007)
WHA 60.24	Health Promotion in a Globalized World (2007)

(Source: World Health Assembly, WHO)

3.7 The Global Strategy for Prevention and Control of Chronic NCD[5] endorsed by the 53rd World Health Assembly in 2000 provides important guidance for the development of the local framework (Exhibit 21). While the Strategy places a major emphasis on health promotion and disease prevention, it also recognises the opportunities for health gain in the development of a more systematic approach to NCD control in the context of hospital care and healthcare reform.

3.8 The Bangkok Charter for Health Promotion[6] adopted in 2005 in the 6th Global Conference on Health Promotion (Exhibit 22) highlights the changing context of global health and identifies major challenges, key commitments and required actions that need to be addressed through health promotion by many actors and stakeholders. These are of great relevance to Hong Kong.

Exhibit 21: Global Strategy for the Prevention and Control of NCD

Generating an information base for action

- Assess and monitor mortality attributable to NCD, and the level of exposure to risk factors and their determinants in the population
- Devise a mechanism for surveillance information to contribute to policy-making, advocacy and evaluation of healthcare

Establishing a national programme for promotion of health and NCD prevention

- Form a national coalition of all stakeholders
- Establish pilot prevention programmes based on an integrated risk factor approach that may be extended territory-wide
- Build capacity at the national and community level for the development, implementation and evaluation of integrated NCD programmes
- Promote research on issues related to prevention and management

Tackling issues outside the health sector which influence NCD control

- Assess the impact of social and economic development on the burden of the major NCD with a view to conducting a comprehensive, multidisciplinary analysis
- Develop innovative mechanisms and processes to help coordinate government activity as it affects health across the various arms of government
- Accord priority to activities that place prevention high on the public agenda, and mobilise support for the necessary societal action

Ensuring health sector reforms responsive to NCD challenge

- Develop cost-effective healthcare packages and evidence-based guidelines for the effective management of priority NCD
- Transform the role of healthcare management by vesting managers with responsibility not for institutions (e.g. hospitals) but for the effective management of resources to promote and maintain the health of a defined population

(Source: WHO, 2000)

Exhibit 22: Bangkok Charter for Health Promotion

Major challenges

As highlighted in the Charter, widening disparities within and between countries, new patterns of consumption and communication, commercialisation, rapid urbanisation and degradation of environment are the critical factors that now influence health and need to be tackled. Further challenges also include: rapid and often adverse social, economic and demographic changes that affect working conditions, learning environment, family patterns, and the culture and social fabric of communities.

Key commitments

In achieving health for all, the Charter gives new direction to health promotion by calling for policy coherence across all levels of governments, United Nations bodies, and other organisations, including the private sector. This coherence will strengthen compliance, transparency and accountability with international agreements and treaties that affect health. The four key commitments are to make the promotion of health:

- central to the global development agenda;
- a core responsibility for all of government;
- a key focus of communities and civil society; and
- a requirement for good corporate practice.

Required actions

Progress towards a healthier world necessitates sustained advocacy, strong political action and broad participation. As recommended by the Bangkok Charter, all sectors and settings must act to:

- advocate for health based on human rights and solidarity;
- invest in sustainable policies, actions and infrastructure to address the determinants of health;
- build capacity for policy development, leadership, health promotion practice, knowledge transfer and research, and health literacy;
- regulate and legislate to ensure a high level of protection from harm and enable equal opportunity for health and well-being for all people; and
- partner and build alliance with public, private, non-government and international organisations and civil society to create sustainable actions.

(Source: WHO, 2005)

3.9 Every country, regardless of the level of its human and financial resources, has the potential to make substantial improvements in NCD prevention and control. To offer a flexible and practical approach to assist ministries of health in balancing diverse needs and priorities, formulating strategies and implementing evidence-based interventions in NCD prevention and control, the WHO has provided a stepwise framework which includes three main planning steps and three implementation steps (Exhibit 23).[1] A number of countries have made reference to such stepwise framework in policy formulation and programme implementation for NCD prevention and control.[4]

Exhibit 23: The WHO stepwise framework for preventing chronic diseases

Policy Implementation steps	Population-wide interventions		Interventions for individuals
	National level	Sub-national level	
Implementation step 1 **Core**	Interventions that are feasible to implement with existing resources in the short term		
Implementation step 2 **Expanded**	Interventions that are possible to implement with a realistically projected increase in, or reallocation of, resources in the medium term		
Implementation step 3 **Desirable**	Evidence-based interventions which are beyond the reach of existing resources		

(Source: WHO, 2005)

3.10 The work undertaken in the following countries reinforces the importance of a focus on NCD prevention.

Canada[7]

3.11 Since 2002, Canada has developed an Integrated Pan-Canadian Healthy Living Strategy. The Strategy, which provides a conceptual framework for sustained action based on healthy living, was approved by the Federal, Provincial and Territorial Ministers of Health at their annual conference in 2005. The goals of the Strategy are to improve overall health outcomes and to reduce health disparities. Grounded in a population health approach, the initial emphasis is on healthy eating, physical activity, and their relationship to healthy weight. The Strategy also includes Pan-Canadian healthy living targets. To be successful, the Strategy recognises that coordinated effort is required.

3.12 Guided by the principles of integration, partnership and shared responsibility, and best practices, the Strategy is orientated around four strategic directions. They are:

- leadership and policy development;
- knowledge development and transfer;
- community development and infrastructure; and
- public information.

3.13 The intersectoral nature of the Healthy Living Strategy also provides a national context and reference point for all sectors, governments and other organisations to measure success of their own strategies and interventions.

United Kingdom[8, 9]

3.14 Although not specifically identified as a NCD strategy, the British Government's White Paper *Saving Lives: Our Healthier Nation* (1999) provides a framework for tackling a similar set of conditions, including ischaemic heart disease and stroke, cancer and accidents. One of the major goals of the White Paper is "to improve the health of the worst off in society and to narrow the health gap". Following its publication in 1999, the National Health Service (NHS) has implemented a series of National Service Frameworks, all of which worked through from prevention through treatment to rehabilitation and care for a series of diseases including diabetes mellitus and ischaemic heart disease. There are also National Service Frameworks for elderly and for children.

3.15 In 2004, another Government's White Paper *Choosing Health: Making Healthier Choices Easier* was published and set out how the Government could make it easier for people to make healthier choices by offering them practical help to adopt healthier lifestyle. It is underpinned by the three key principles of informed choice for all, personalisation of support to make healthy choices and working in partnership to make health everyone's business. The White Paper also highlighted action over six key priorities for delivery based upon more people making healthy choices:

- tackling health disparities;
- reducing the number of people who smoke;
- tackling obesity;
- improving sexual health;
- improving mental health and well-being; and
- reducing harm and encouraging sensible drinking.

3.16 The British Government was determined to make a difference to people's lives and turn its commitments into sustained action. To make it happen, the White Paper introduced the key elements of how the strategy would be delivered. Briefly, the Government is committed to:

- building health into future legislation by including health as a component in regulatory impact assessment;
- re-focusing mainstream programmes and providing new funding for specific priorities;
- joining up action with local governments and others and the process would be coordinated and overseen by the Cabinet Sub-committee;
- publishing a delivery plan making clear the accountability for the commitments they had made and the actions that needed to be taken;
- building partnerships and engaging local government, the NHS, consumers and voluntary organisations and the private sectors for delivery; and
- having a clear system of delivery to ensure action locally.

3.17 It was emphasised that making things happen needs central coordination and direction; working across government, local engagement and partnership with a wide group of stakeholders; using the public health system; building on what is already going on; making health a mainstream commitment; being clear about deliverables and time scales; and engaging the public and the media. In addition to the strategy paper, further centralised guidance on performance managing the NHS to deliver progress in the priority areas has been issued and public health targets are included in routine monitoring at a national level.

Sweden[10]

3.18 In 2003, the Swedish Parliament passed the Government's Public Health Objectives Bill and launched a National Public Health Policy. The overall aim of Swedish public health policy is to create social conditions which ensure good health for the whole population in order to achieve the following objectives:

- Participation and influence in society
- Economic and social security
- Secure and favourable conditions during childhood and adolescence
- Healthier working life
- Healthy and safe environment and products
- Health and medical care that more actively promotes good health
- Effective protection against communicable diseases
- Safe sexuality and good reproductive health
- Increased physical activity
- Good eating habits and safe food
- Reduced use of tobacco, alcohol and illicit drugs and a reduction in the harmful effects of excessive gambling

3.19 While the first six objectives relate to structural factors (i.e. environment) that can be changed by public efforts and policies, the last five objectives concern lifestyles which require individual commitment to improve or maintain one's own health. Measures to improve public health are planned in the areas of social policy, gender equality policy, child policy, elderly policy, healthcare policy, disability policy, education policy, labour market policy, environment policy and culture policy. In all, the public health bill specified 31 policy areas in which measures are to be implemented.

Australia[11, 12]

3.20 Over the last decade, strategies have been initiated in Australia to address the rising prevalence of chronic diseases. In 2001, the National Public Health Partnership Group and National Strategies Coordination Working Group, in conjunction with the National Health Priority Action Council and with the support of the Australian Health Ministers' Advisory Council, put forward a strategic framework for preventing chronic diseases. The framework is intended to provide the basis for a comprehensive, evidence-based, public health response to the priority diseases and health issues. To help organise the national population health effort more effectively and efficiently, the framework focuses on a number of preventable conditions which share commonalities in their aetiology and the major modifiable risk factors, and determinants of these conditions. Based on a list of selection criteria, the primary conditions targeted are heart diseases, stroke, type 2 diabetes mellitus, hypertension, abnormal blood lipid profiles and obesity. Other conditions proposed under the framework include renal disease, certain cancers and chronic lung disease, whereas the primary behavioural risk factors targeted include smoking, unhealthy diet, physical inactivity and alcohol misuse.

3.21 For the chronic disease prevention strategy, the goals are to:

- improve the health of all Australians by reducing the health, social and economic impacts of chronic diseases;
- reduce health disparities among different segments of the population;
- establish a national system of health promotion and chronic disease prevention strategies that meet the needs of the population at each stage of the life course;
- incorporate chronic disease prevention objectives into policies; and
- create and sustain the partnerships, systems and leadership needed to achieve these goals.

3.22 To achieve the goals, the framework underlines the importance of a life course approach to disease prevention and health promotion, and harnessing the contribution of different groups and interests in society to address the burden of chronic diseases. In line with the WHO's recommendation, the framework recommends building the organisation of the national prevention effort in Australia around three key domains of activity. These are: ensuring an effective information base; strengthening prevention and health promotion; and improving systems of care for those with chronic diseases.

Singapore[13]

3.23 From 2000 onwards, the Ministry of Health developed a multi-pronged disease management framework for major chronic diseases in Singapore. The aim is to reduce the burden of major diseases causing mortality and morbidity, such as CVD. It emphasises the building of a healthy population through preventive healthcare programmes and the promotion of healthy living. This approach comprises the following:

- patient and family education;
- promotion of self-management;
- changes to the clinical care process (e.g. clinical guidelines and pathways);
- interaction between the caregiver and patient using good communication and various clinical tools;
- feedback about patient outcomes; and
- supportive information technology infrastructure.

3.24 In this framework, the focus is primarily on health promotion and primary preventive activities that are targeted at both the general population and high-risk groups. At the same time, risk factors have to be detected early and treated early (secondary and tertiary prevention) for an overall comprehensive approach to disease prevention and control. To ensure successful implementation, the National Disease Plans use a comprehensive approach incorporating patient responsibility, integration of care by several providers and identification of responsible parties. National Disease Plans are being established for cancer, ischaemic heart disease, stroke, end-stage renal failure and myopia.

3.25 In sum, the work undertaken in the above countries have emphasised healthy lifestyle promotion and the role of preventive care in addressing major NCD.