

Chapter 8

Health

Hong Kong's public and private medical sectors provide extensive healthcare services, including a low-cost public healthcare 'safety net' that ensures no one in Hong Kong is denied medical care due to lack of means.

2013 Figures at a Glance

Infant Mortality Rate	1.6* per 1,000 registered live births	
Maternal Mortality Ratio	0* per 100,000 registered live births	
Life Expectancy 2013	80.9 (Male)	86.6 (Female)
2041	84.4 (Male)	90.8 (Female) projected

(*provisional figures)

Hong Kong has a high quality healthcare system supported by a highly professional team of healthcare workers. The infant mortality rate has fallen steadily over the past 20 years, from 6.5 per cent in 1991 to 1.4 per cent in 2011, one of the lowest in the world. In 2013, Hong Kong's male and female life expectancy, at 80.9 years and 86.6 years respectively, were among the highest in the world.

Hong Kong's Domestic Health Accounts (DHA)¹ show that Hong Kong's total health expenditure increased from 3.6 per cent to 5.1 per cent of Gross Domestic Product (GDP) over the period 1989-90 to 2010-11. Over the same period, public health spending (\$45.5 billion in 2010-11, or 2.5 per cent of GDP) rose from 39 per cent to 49 per cent of total health expenditure. The government's recurrent funding for health has witnessed substantial year-by-year increases over the past five years. By 2013, the government recurrent expenditure on health had increased by about \$14.9 billion to \$48.8 billion, representing an increase of over 44 per cent from \$33.8 billion in 2008. Recurrent expenditure on health accounted for 17 per cent of the government's recurrent expenditure in 2013. The Food and Health Bureau (FHB) has also

¹ A series of accounts compiled over the years in accordance with the International Classification for Health Accounts Framework developed by the Organisation for Economic Co-operation and Development to keep track of Hong Kong's health spending and to allow for international comparison.

strengthened the public healthcare services safety net to provide better protection for patients requiring self-financed drugs and treatment, including injecting \$10 billion to the Samaritan Fund in 2012. The government continues to take forward various healthcare service reform measures, including enhancing primary care, promoting public-private partnership and developing a territory-wide electronic health record sharing system.

Organisational Framework

The FHB formulates policies and allocates resources for Hong Kong's healthcare services, with the aim of protecting and promoting public health, providing lifelong holistic healthcare to every citizen, and ensuring that no one is denied medical care due to lack of means.

The Department of Health (DH) is the government's health adviser and executes healthcare policies and statutory functions. It safeguards the community's health through a range of promotional, preventive, curative and rehabilitative services.

The Hospital Authority (HA), established under the Hospital Authority Ordinance, provides public hospital and related services. It offers medical treatment and rehabilitation services to patients through hospitals, specialist clinics, general outpatient clinics, and outreaching services organised into seven 'clusters' that together serve the whole of Hong Kong.

The Health and Medical Development Advisory Committee, chaired by the Secretary for Food and Health and with members from different sectors of the community, advises government on the development of health and medical policies.

Healthcare Reform

In response to the challenges of an ageing population, advances in medical technology, and rising healthcare costs, the government has embarked on a number of new initiatives to enhance the long-term sustainability of the healthcare system:

- **Private health insurance** – the FHB is formulating detailed proposals for implementing a voluntary and government-regulated private health insurance scheme, the Health Protection Scheme, which aims to provide more accessible health insurance products with better protection and more transparency and certainty for the insured.
- **Healthcare manpower planning** – the FHB is conducting a strategic review on healthcare manpower planning and professional development, covering 13 statutorily regulated healthcare professions, to ensure an adequate supply of healthcare manpower to meet Hong Kong's long-term healthcare needs.
- **Private healthcare service development** – the government has set aside new land for private hospital development and a review is being undertaken by the FHB to enhance the regulation of private healthcare facilities (including private hospitals) for better safety and quality of private healthcare services and for greater price transparency.

Primary Care Services

Primary care is the first step in the healthcare process and covers a wide range of public health services, including health promotion and disease prevention, general outpatient services and special health services for people in specific age groups who do not require immediate hospital care. The FHB published the 'Primary Care in Hong Kong: Strategy Document' in 2010, and has been taking forward some major recommendations including formulating reference frameworks for specific chronic diseases and population groups, development of the Primary Care Directory and establishment of community health centres.

Clinic Services

Primary care services in Hong Kong are mainly provided by the private sector. Public general outpatient clinic services under the HA are primarily targeted at serving the elderly, low-income families and chronic disease patients. The HA operates 73 general outpatient clinics throughout the territory with some providing family medicine specialist outpatient services. In 2013, some 1.48 million people used these services, with 6.05 million attendances recorded. On average, about 31 million outpatient visits are made to private Western medicine clinics in Hong Kong each year.

To promote the development of 'evidence-based' Chinese medicine practice and to increase training opportunities for local Chinese medicine degree programme graduates, the HA has since 2003 collaborated with non-governmental organisations (NGOs) and local universities to set up 17 public Chinese medicine clinics under a tripartite model. In 2013, the government provided a total subvention of \$90 million for these clinics, serving about 167,000 patients involving 980,000 visits. About seven million visits are made to Chinese medicine practitioners' clinics in the private sector (including about 40 Chinese medicine clinics operated by local universities and NGOs on a self-financing basis) each year.

Family Health

The DH provides a range of health promotion and disease prevention services through its 32 maternal and child health centres and three women's health centres for children up to five years of age, and women aged 64 or below. These centres offer an Integrated Child Health and Development Programme for parents and caregivers to promote children's holistic health and well-being. The programme's core components are parenting, immunisation, and health and developmental surveillance.

Antenatal, postnatal, family planning, and cervical screening services are provided for women. These centres also provide health education, including psycho-social health, personal relationships, and physical health and healthy lifestyle for women. Some 28,000 expectant mothers and 54,700 newborn children attended maternal and child health centres in 2013 respectively, representing about 49 per cent and 95 per cent of the total numbers of expectant mothers and newborn children in Hong Kong.

The Family Health Service under the DH also provides information on child care, parenting and health to the general public through various channels such as information leaflets, seminars/workshops, websites and a 24-hour information hotline. The Family Planning Association (FPA)

of Hong Kong offers services and health information on sexual and reproductive health treatments and counselling at its clinics, youth healthcare centres, activity and resource centres and women's clubs. The FPA received \$45.55 million in government subsidies in 2012-13 and over 200,000 people used its services in 2013.

Student Health

The DH provides health screening and individual counselling to primary and secondary school students through its 12 student health service centres and three special assessment centres. In the 2012-13 school year, over 661,200 primary one to secondary six students used its services. In addition, school health inspectors check schools' hygiene standards. School Immunisation Teams under the auspices of the DH's Centre for Health Protection (CHP) visit primary schools every year to administer free vaccinations for students.

The DH's eight school dental clinics provided preventive dental services including annual dental check-ups and basic dental care to about 302,000 primary students (about 95 per cent of all Hong Kong primary students) in the 2012-13 school year.

Elderly Health

The DH's 18 elderly health centres and 18 visiting health teams provide primary health care to the elderly, improve their ability to care for themselves and encourage healthy living and their family's support. The centres provide health assessments, basic treatment, health education and counselling to people aged 65 and above. The visiting health teams conduct health promotion activities for the elderly and provide training to improve carers' skills. In 2013, the centres recorded 38,700 enrolments and 167,900 attendances for health assessment and medical consultation, while the health teams provided service to 316,500 persons.

Community Health

The HA's community healthcare services aim to reduce reliance on inpatient services and help patients' rehabilitation in the community. In 2013, the HA conducted 1,912,800 home visits and outreach care services, mainly for elderly people.

Over 80 per cent of those receiving HA's community nursing care services are elderly people. Community geriatric assessment teams make regular visits to residential care homes for the elderly to provide medical and nursing care to residents who are unable to visit the specialist outpatient clinics. These teams also train the carers to help them take care of frail residents.

Dental Health

Eleven government dental clinics provide emergency dental services to the general public for pain relief and tooth extraction, and seven public hospitals offer specialist oral healthcare services to inpatients and others with special oral health needs. The DH also monitors the level of fluoridation in water supplied to the public to reduce dental decay.

The DH's Oral Health Education Unit carries out various target-oriented educational activities to promote oral health, such as the 'Bright Smiles Mobile Classroom' for primary students. Information on oral health is also provided through the oral health education homepage

(www.toothclub.gov.hk) and a 24-hour interactive hotline. In November 2013, the DH launched the annual 'Love Teeth Campaign' to encourage good dental habits.

In 2011, the government launched a three-year pilot project to provide outreach primary dental care services for the elderly in residential care homes and day care centres. By the end of 2013, 24 outreach dental teams from 13 NGOs had been set up, providing basic dental care services to about 59,000 elderly people in more than 730 residential care homes for the elderly and day care centres. The pilot project will be turned into a recurrent programme in 2014.

In 2013, the FHB (in collaboration with Hong Kong Dental Association, the Hong Kong Special Care Dentistry Association and the Evangel Hospital) launched a four-year pilot project to provide dental services for patients with moderate intellectual disability (ID). At present, patients with moderate ID aged 18 or above who are receiving Comprehensive Social Security Assistance, on referral by rehabilitation service units of welfare NGOs (such as sheltered workshops), can receive check-ups, dental treatment and oral health education in the dental clinics participating in this pilot project. If necessary, other dental services can be arranged for them under intravenous sedation or general anaesthesia in a hospital with appropriate medical support.

The DH also conducts a special oral health promotion programme, 'Dandelion Oral Care Action', to help children with mild to moderate ID in special schools take care of their oral hygiene themselves.

Mental Health

The government adopts a holistic approach in promoting mental health through a service delivery model that covers prevention, early identification, timely intervention and treatment, and rehabilitation for persons in need. Government funding for mental health services has increased from \$3.39 billion in 2007-08 to \$4.79 billion in 2012-13.

As a major medical service provider for people with mental disorders in Hong Kong, the HA provides a spectrum of services ranging from inpatient facilities, day hospitals and specialist outpatient clinics to community outreach services. In 2012-13, over 195,000 persons with mental health problems received treatment and support through the HA's various psychiatric services.

Psychiatric inpatient care is essential to facilitate symptom control, behavioural management and early recovery for patients experiencing acute psychiatric crisis. In 2012-13, some 14,000 patients received in-patient care in the HA's psychiatric units, of whom about 700 required long-term care and had been hospitalised for more than one year. The HA maintained 3,607 psychiatric beds and the bed occupancy rate remained steady at around 80 per cent.

Psychiatric day hospitals provide a range of treatment and rehabilitation services for patients who attend for a number of hours in a week. The HA provided about 889 psychiatric day hospital places in 2012-13.

In line with the international trend to focus more on community and ambulatory care in the treatment of mental illness, the HA also operates cluster-based community psychiatric services covering the 18 districts of Hong Kong. In 2012-13, about 238,800 community psychiatric outreach attendances and about 96,400 psychogeriatric outreach attendances were recorded. The HA also plans to extend the case management programme for patients with severe mental illness to cover all districts in 2014-15, serving some 17,000 patients residing in the community.

Other Special Services

The DH operates various specialist clinics and centres to serve the public including 20 methadone clinics, 19 tuberculosis and chest clinics, seven social hygiene clinics, four dermatology clinics, two integrated treatment centres, four clinical genetic clinics, six child assessment centres, and two travel health centres. About 6.7 million visits to the DH's clinics and centres were recorded in 2013.

Healthcare Services Provided by Private and Non-governmental Organisations

The private care sector is the main provider of primary care in Hong Kong, and complements the public sector by providing a range of specialist and hospital services. Doctors of Western medicine, Chinese medicine practitioners, dentists, and other healthcare professionals (including nurses, chiropractors, physiotherapists, occupational therapists, pharmacists and optometrists) are healthcare service providers in the private sector. In general, private healthcare services are not subsidised by the government (except for certain institutional or day-time long-term medical and nursing care and a few public-private partnership projects under the HA) and patients have to bear the full cost of using these services.

NGOs also provide healthcare services at different levels in Hong Kong, including operating community clinics offering primary care services.

In addition, many NGOs organise health promotion, educational and other healthcare-related activities. Some NGOs also provide health assessment services for the elderly, and medical check-ups for women. The Hong Kong St John Ambulance provides first aid training and services, while the Hong Kong Red Cross provides first aid training to promote first aid knowledge and skills. The Hong Kong Cancer Fund raises public awareness of cancer and encourages people to undertake regular cancer screening to minimise cancer risks.

Secondary, Tertiary and Specialised Healthcare Services

Secondary, tertiary and specialised healthcare services are provided mainly in the HA's hospitals and specialist clinics and in 2012-13, the HA spent about \$37.3 billion on specialist outpatient and inpatient services. At the end of 2013, there were 27,400 public hospital beds, comprising 21,092 general beds, 2,041 infirmary beds, 3,607 beds for the mentally ill and 660 beds for the mentally handicapped. In addition, there were 3,882 beds in private hospitals, 4,617 in nursing homes and 821 in institutions run by the Correctional Services Department. There are 5.1² beds per thousand of population. Spending on secondary, tertiary and specialised healthcare services, including both public sector and private sector amounted to about \$46.7 billion in

² Including all hospital beds in HA hospitals, private hospitals, nursing homes and correctional institutions.

2010-11, of which spending on public specialist outpatient and inpatient services accounted for 76 per cent.

In 2012-13, about \$8.7 billion was spent on secondary and tertiary ambulatory medical services provided by the HA's specialist clinics. The HA has specialist clinics for a wide range of specialties, including internal medicine, surgery, obstetrics and gynaecology, paediatrics, orthopaedics and traumatology, ear, nose and throat, ophthalmology, psychiatry, neurosurgery, oncology and cardio-thoracic surgery.

In 2013, members of the public made over seven million visits to the HA's specialist outpatient clinics. Appointments for new patients are made on the basis of the severity of their clinical condition in order to ensure that patients with acute conditions will be given priority in accessing the required services. Patients in stable condition are referred to primary care practitioners in the private sector or the HA's general outpatient clinics for follow-up.

Allied Health Service

Allied health professionals working under the HA include audiologists, clinical psychologists, dietitians, occupational therapists, optometrists, orthoptists, physiotherapists, podiatrists, prosthetists and orthotists, speech therapists and medical social workers. They provide rehabilitative and extended care for patients receiving inpatient, outpatient, ambulatory and community care services to help them reintegrate into society. In 2013, members of the public made about 2.32 million visits to the HA's allied health outpatient departments.

Inpatient Services

In 2012-13, \$28.6 billion was spent on providing inpatient services by HA hospitals. A total of 1.55 million inpatients and day-patients were discharged from public hospitals in 2013.

Accident and Emergency Services

Accident and emergency services are provided at 17 HA hospitals, delivering a high standard of service for critically ill or injured persons who need urgent medical attention and providing medical support for victims of disasters. In 2012-13, \$2.1 billion was spent on these services. In 2013, 1.28 million people paid 2.23 million visits to the accident and emergency departments of public hospitals, an average of 6,102 attendances per day.

Patients attending the accident and emergency departments of public hospitals are classified under five categories according to their clinical condition: critical cases are classified under Category 1, emergency cases under Category 2, urgent cases under Category 3, semi-urgent cases under Category 4, and non-urgent cases under Category 5. The triage system ensures that patients with more urgent needs receive prompt attention. In 2013, all Category 1 patients received immediate treatment while over 95 per cent of Category 2 patients were treated within 15 minutes.

Medical Charges and Waiver

Fees for public hospital and clinic services for the general public are subsidised up to 96.6 per cent by the government, with people receiving assistance under the Comprehensive Social

Security Assistance Scheme exempted from paying. Other needy groups (including low-income patients, the chronically ill, and elderly patients with financial difficulties) are assisted through a medical fee waiver scheme.

Private Hospitals

Hong Kong's 11 private hospitals served 405,211 inpatients in 2012, representing 20 per cent of the total number of inpatients in the territory. Spending on private inpatient services amounted to \$11.4 billion in 2010-11, accounting for 32 per cent of overall expenditure on inpatient services in the public and private sectors.

Healthcare Service Development and Infrastructure

Public Hospital Development Projects

A number of public hospital development projects are in progress to help improve healthcare services in different parts of Hong Kong. In 2013, North Lantau Hospital Phase 1 came into operation; and the remaining works of the Tseung Kwan O Hospital expansion project and the new ambulatory/rehabilitation block of Caritas Medical Centre were completed. Other ongoing projects include the redevelopment of Yan Chai Hospital, and the construction of Tin Shui Wai Hospital and Hong Kong Children's Hospital.

Public-private Partnership Projects in Healthcare Services

The government has launched a series of public-private partnership projects through the HA, including the Cataract Surgeries Programme which subsidises patients for cataract surgery performed by private ophthalmologists. By the end of 2013, 109 ophthalmologists had participated in the programme and more than 18,900 patients had enrolled, of whom over 14,600 had received cataract surgery.

Under the HA's Tin Shui Wai Primary Care Partnership Project, chronic disease patients living in Tin Shui Wai who need long-term follow-up treatment at the HA's general outpatient clinics can choose to receive subsidised treatment from private doctors. As at the end of 2013, 11 private doctors and 1,618 patients had enrolled in the programme.

The Haemodialysis Public-Private Partnership Programme provides private haemodialysis services to eligible patients with end-stage renal disease currently under the HA's care. The programme will provide 128 haemodialysis places in 2013-14.

The Pilot Project on Enhancing Radiological Investigation Services through Collaboration with the Private Sector subsidises patients from selected cancer groups for Computed Tomography and Magnetic Resonance Imaging services at private healthcare service providers. By the end of 2013, five private healthcare service providers had participated in the project involving 3,450 attendances with 7,690 investigations completed.

Developing Electronic Health Record (eHR) Sharing

The government's Public-Private-Interface Electronic Patient Record Sharing Pilot Project, launched in 2006, aims to enhance continuity of care for patients by enabling participating private healthcare providers and other registered institutions to view the HA's records, subject

to patients' consent. By the end of 2013, more than 339,000 patients, 3,020 private healthcare professionals (2,233 private medical practitioners and 787 nurses), 11 private hospitals and 74 other private organisations or NGOs providing healthcare-related services (including their 429 residential care homes or centres) had participated in the project.

Building on the experience and success of the pilot project, the government is implementing a 10-year programme to develop a territory-wide eHR Sharing System (eHRSS). The development of the core infrastructure of the eHRSS and its complementary components, including the Clinical Management System (CMS) Adaptation (for private hospitals) and CMS On-ramp (for private clinics) is near completion. To protect patients' privacy and system security, the FHB's Electronic Health Record Office is preparing eHR legislation and Codes of Practice for the eHRSS. The first phase of the eHRSS is planned to come into operation in late-2014.

Health Promotion

Healthy Lifestyle

The DH's Central Health Education Unit formulates and implements health promotion strategies. It runs various promotional campaigns and programmes to provide the public with information and advice on a range of health-related topics and to encourage healthy eating and regular physical activity.

In the 2012-13 school year, over 400 pre-primary institutions participated in the 'StartSmart@school.hk' campaign; 480 primary schools (including special schools) participated in the 'EatSmart@school.hk' campaign. In 2013, over 600 restaurants took part in the 'EatSmart@restaurant.hk' campaign, while 'Health@work.hk' project promoted health in the workplace.

In addition, to prevent communicable diseases, the unit provided the public with updated information and health advice on infectious diseases through the media, webpages, promotional leaflets, posters, and telephone hotlines. It also produced health education materials in various languages to raise awareness of the need to prevent communicable diseases and related hygiene measures among ethnic minorities.

In addition, some 324 secondary schools, over 81,100 students and 1,300 parents and teachers enrolled in the Adolescent Health Programme and received its services.

AIDS Counselling and Education

The DH's 'Red Ribbon Centre' collaborates with its community partners to enhance public awareness and prevention of human immunodeficiency virus (HIV) and to promote caring and acceptance of HIV patients. In 2013, the centre organised 17 major activities and 67 special programmes, with some 74,300 participants.

Information on Acquired Immune Deficiency Syndrome (AIDS), sexually transmitted infections and multilingual AIDS hotlines is available at the DH's website (www.info.gov.hk/aids/).

Appointments for counselling and HIV antibody/rapid tests may be made on the hotline 2780 2211. In 2013, the hotline received over 24,900 calls, of which about 17,800 calls sought AIDS counselling from nurse counsellors. About 950,000 condoms were distributed to promote safer sex. There are also a Gay Men HIV Testing Hotline (2117 1069) and a website (www.21171069.com). In 2013, the Gay Men HIV Testing Hotline received 453 calls for counselling and HIV antibody/rapid testing.

Organ Donation

The DH promotes organ donation in various ways (including a dedicated page on Facebook) together with the HA, healthcare professional bodies and voluntary organisations. As at the end of 2013, over 130,000 persons had registered with the Centralised Organ Donation Register to express their wish to donate their organs after death.

The number of patients waiting for kidney, liver, heart and lung transplants stood at 1,991, 120, 17 and 18 respectively as at the end of 2013, whereas there were 38 liver, 70 renal, 11 heart, two double-lung, two single-lung and 248 cornea donations from the deceased in Hong Kong's public hospitals in 2013.

Smoking and Health

China is a state party to the Framework Convention on Tobacco Control of the World Health Organisation (WHO), making provisions of the convention applicable to Hong Kong. Hong Kong's current tobacco control policy aims to discourage smoking, contain the proliferation of tobacco use and minimise the impact from passive smoking through a progressive and multi-pronged approach, comprising legislation, publicity, education, enforcement, smoking cessation and taxation.

Legislation and Enforcement

The Smoking (Public Health) Ordinance stipulates statutory no-smoking areas and enforcement arrangements, and regulates the advertisement, promotion, packaging and labelling of tobacco products. Smoking is banned in all indoor areas of workplaces and public places, including restaurants and bars, as well as outdoor areas, including the open areas of schools, leisure grounds, bathing beaches and public transport facilities. Persons smoking in statutory no-smoking areas and on public transport carriers are liable to a fixed penalty of \$1,500 under the Fixed Penalty (Smoking Offences) Ordinance. All advertisements and promotions for tobacco products are prohibited in Hong Kong.

The DH's Tobacco Control Office (TCO) enforces the smoking ban at statutory no-smoking areas. In 2013, the TCO conducted over 27,400 inspections and issued 232 summonses and 8,330 fixed penalty notices for smoking offences. It also organised 55 seminars attended by over 1,700 people. The TCO also distributed health education materials (including guidelines, posters, no smoking signs and pamphlets) to venue managers of statutory no-smoking areas and to the public.

Publicity and Education

The Hong Kong Council on Smoking and Health (COSH), an independent statutory body, advises the government on smoking, passive smoking and health, and on publicising the hazards of smoking. The COSH conducts various publicity, education and community involvement campaigns. It also operates a website, www.smokefree.hk, and a telephone hotline to receive enquiries and suggestions from the public on smoking and health. In 2013, the COSH's publicity and educational programmes attracted an attendance of about 158,000 people. The DH collaborates with NGOs to deliver school-based smoking prevention activities.

Smoking Cessation and Prevention of Youth Smoking

The DH provides advice on how to quit smoking, counselling services and pharmaceutical treatment through various channels, including a hotline, clinics and an interactive online cessation centre. In 2013, over 13,000 telephone calls were received by the smoking cessation hotline. The DH also broadcasts announcements on TV and radio, conducts seminars and issues health education materials to increase public awareness of the harmful effects of smoking and second-hand smoke. The DH collaborates with a number of NGOs to run community-based smoking cessation programmes, including the use of Chinese medicine acupuncture, peer-led phone counselling, and smoking cessation services at the workplace. In 2013, the DH (in collaboration with an NGO) launched a smoking cessation programme for ethnic minority and new immigrants.

The HA also provides smoking counselling and cessation services through its 10 full-time and 45 part-time 'Smoking Counselling and Cessation Centres'. It operates a telephone hotline providing booking and enquiry services for smokers who wish to quit smoking.

Disease Prevention and Control

The DH spent \$2.2 billion on disease prevention and control at its maternal, child health and elderly health centres and similar facilities in the 2012-13 financial year.

Centre for Health Protection

The CHP collaborates with its local and international counterparts to prevent and control diseases in Hong Kong. It works on three principles: real-time surveillance, rapid intervention and responsive risk communication. To carry out its mission, the CHP works to protect the health of the community, promote healthy living in the community, and partner with stakeholders to achieve its objectives. The CHP keeps track of communicable diseases and issues surveillance reports on a regular basis, as well as reports on laboratory data.

A board of scientific advisers, comprising experts from different disciplines, and seven scientific committees meet periodically to assist the CHP in formulating effective policies to improve the local health protection system. Regular training and research programmes are also conducted.

The CHP also uses health education campaigns and publicity programmes run in association with district councils to provide information and guidelines on diseases, alert the public to health threats and facilitate rapid implementation of preventive measures. In addition,

professional knowledge and experience in combating diseases are shared with other health authorities and agencies in the Mainland, in Macao and the WHO.

Prevention and Control of Infectious Diseases

Under the Prevention and Control of Disease Ordinance, there are 48 statutory notifiable infectious diseases in Hong Kong. In 2013, about 20,000 cases were reported, of which about 11,000 and 4,854 were diagnosed as chickenpox and tuberculosis respectively.

In December 2013, Hong Kong confirmed its first human case of avian influenza A(H7N9), which upon investigation was considered to be a sporadic imported case. The government activated the 'Serious Response Level' under the Preparedness Plan for Influenza Pandemic and implemented a comprehensive range of response measures.

The CHP continually reviews and updates its strategies for coping with major outbreaks of infectious diseases, ensuring that both the government and the community are prepared to deal with them. A plan for mobilising volunteers in the event of an outbreak is also in place. The CHP organises drills from time to time to test Hong Kong's preparedness.

Vaccination Programmes

Children in Hong Kong are protected against communicable diseases such as tuberculosis, hepatitis B, poliomyelitis, diphtheria, tetanus, pertussis, measles, mumps, rubella and pneumococcus under a 'Childhood Immunisation Programme'.

The 'Government Vaccination Programme', provides eligible persons in target groups with free seasonal influenza and pneumococcal vaccinations each year at public hospitals and clinics. In addition, under two 'Vaccination Subsidy Schemes', children aged between six months and less than six years and elderly people aged 65 or above can receive subsidised seasonal influenza vaccinations at private clinics. A subsidised pneumococcal vaccination at private clinics is also available for elderly people who have not previously received one. Over 1,600 private doctors participate in the 'Vaccination Subsidy Schemes'.

In December 2013, the government launched a six-month 'Childhood Pneumococcal Conjugate Vaccine 13 Booster Vaccination Programme' to provide eligible children with one booster dose of the vaccine free of charge or with subsidy.

These various vaccination programmes help protect high risk groups against infection and related complications, hospitalisation and mortality.

Non-communicable Diseases

The biggest killers in Hong Kong are cancer, heart and cerebrovascular diseases, which together accounted for about 52 per cent of all registered deaths in 2013. Elderly people are the major victims of these chronic non-communicable diseases.

A Cancer Co-ordinating Committee chaired by the Secretary for Food and Health makes recommendations for the prevention and control of cancer, which claimed more than 13,500

lives in Hong Kong in 2013. In 2013, about 108,000 women registered under the DH's cervical screening programme for women aged between 25 and 64 underwent cervical screening.

Health Regulatory Activities

Healthcare Professionals

As at end-2013, 13,203 doctors, 2,310 dentists, 9,519 Chinese medicine practitioners (CMPs) (including both listed and registered CMPs), 45,846 nurses (including both registered and enrolled nurses), 4,597 midwives, 2,285 pharmacists, 180 chiropractors, 2,523 physiotherapists, 1,580 occupational therapists, 3,123 medical laboratory technologists, 2,111 optometrists, 1,984 radiographers and 367 dental hygienists were registered in Hong Kong.

Western Medicines

Western medicines in Hong Kong are regulated under the Pharmacy and Poisons Ordinance. Acting on the authority of the Pharmacy and Poisons Board, the DH evaluates and approves applications for the registration of pharmaceutical products, issues licences to drug manufacturers, importers and exporters, wholesalers and retailers, and takes action against the illegal sale of controlled drugs. Regulatory controls on poisons, antibiotics and dangerous drugs for medicinal use are also enforced by the DH.

In 2013, the Pharmacy and Poisons Board approved 4,506 applications for registration of pharmaceutical products and as at year-end, 18,912 pharmaceutical products were registered in Hong Kong.

In 2009, a committee set up by the government to review the regulation of pharmaceutical products issued a report putting forward 75 recommendations. Various recommendations relating to the DH have been implemented, including increasing the requirement for microbiological monitoring in the process of drug manufacturing by local drug manufacturers, stepping up inspections of local drug traders, providing additional information on the type of sales restriction (eg prescription only medicine) for each registered pharmaceutical product and providing updated information on the safe use of drugs on the website of the DH's Drug Office. The DH is following up with the implementation of the remaining recommendations, including those that involve legislative amendments.

Chinese Medicines

Chinese medicines are regulated under the Chinese Medicine Ordinance, which requires any person engaged in the retail or wholesale of Chinese herbal medicines or the manufacture or wholesale of proprietary Chinese medicines to obtain a licence. Licensed manufacturers may apply for a Certificate for Manufacturer, certifying that they follow the requirements of Good Manufacturing Practice in the manufacture and quality control of proprietary Chinese medicines. The Chinese Medicine Council of Hong Kong (CMCHK) is the statutory body responsible for devising and implementing regulatory measures for Chinese medicines. All proprietary Chinese medicines must be registered before they can be sold, imported or possessed in Hong Kong. As a transitional arrangement, proprietary Chinese medicines manufactured or on sale on 1 March 1999 are eligible for a transitional registration status upon submission of acceptable basic test reports. By the end of 2013, there were 6,776 licensed

Chinese medicines traders (including 11 holding Certificate for Manufacturer), and 8,650 proprietary Chinese medicines had obtained transitional registration status, and 375 proprietary Chinese medicines had been issued with 'Certificate of registration of proprietary Chinese medicine'.

Since December 2011, registered products must have the relevant registration number affixed. Their labels and package inserts should also comply with the relevant requirements.

Under the Chinese Medicine Ordinance, an application can be made to the CMCHK's Chinese Medicine Board for a certificate for the purpose of conducting a clinical trial or medicinal test of any proprietary Chinese medicine.

To promote the development of Chinese medicine in Hong Kong, the government established the Chinese Medicine Development Committee (CMDC) in February 2013 to study four major areas: the development of Chinese medicine services, professional personnel training and professional development, research and development and development of the Chinese medicines industry (including Chinese medicines testing). The CMDC is chaired by the Secretary for Food and Health, and comprises representatives from the Chinese medicine practice, the Chinese medicines trade, the research and development, testing and healthcare sectors, academia, and lay persons.

Human Organ Transplant

The Human Organ Transplant Ordinance (HOTO) regulates the transplant of human organs and importation of human organs for transplant purposes, and prohibits commercial dealings in human organs intended for transplant. Approval from the statutory Human Organ Transplant Board (HOTB) is required for transplantation of human organs between living persons who are not genetically related or a couple whose marriage has subsisted for not more than three years. The HOTB also collects information about transplant operations conducted in Hong Kong. In 2013, the HOTB received a total of 16 applications for organ transplants between living non-related persons and 54 human organs were imported into Hong Kong for transplant purposes.

Applications can be made to the DH for exemption from the HOTO of certain commercial products made from human tissue that have been subjected to processing, enabling patients with a genuine medical need for a transplant to benefit from the use of these products. As at the end of 2013, the HOTB had received 28 applications for exemption and approved 20 products.

Human Reproductive Technology

Activities using human reproductive technology are regulated to ensure the procedures are conducted in a safe and informed manner, and to safeguard the welfare of children born through the technology. The Human Reproductive Technology Ordinance confines the application of human reproductive technology procedures to infertile married couples, regulates surrogacy arrangements and the use of embryos and gametes for research and other purposes, and prohibits commercial dealings in embryos or gametes and the use of donated gametes in surrogacy arrangements. Reproductive technology service providers and embryo researchers who wish to conduct relevant activities under the ordinance must apply for a

licence issued by the Council on Human Reproductive Technology set up under the legislation. As at the end of 2013, the council had issued 52 licences, including 13 treatment licences, 36 artificial insemination-by-husband licences and three research licences.

In accordance with international practice and in consultation with the medical profession, social workers, the legal profession, academia and ethical groups, the council has established a code of practice setting out the requirements, standards and good practices for embryo researchers and reproductive technology practitioners.

Port Health

To prevent and control cross-boundary spread of infectious and other serious diseases into and out of Hong Kong, the DH's Port Health Office enforces quarantine measures according to the International Health Regulations and the Prevention and Control of Disease Ordinance. Travellers arriving in Hong Kong at boundary control points are required to undergo temperature screening as a precautionary measure.

The Port Health Office also provides Hong Kong residents with disease preventive services including medical consultation, vaccination, prophylactic medication and advice on travel-related risks before they travel. The office has a close working relationship with the travel industry and provides travel health information on the website www.travelhealth.gov.hk.

Radiation Health

The independent Radiation Board, set up under the Radiation Ordinance, controls the import, export, possession and use of radioactive substances and irradiating apparatus. As the executive arm of the Radiation Board, the DH's Radiation Health Unit (RHU) carries out licensing controls and conducts inspections of radioactive substances or irradiating apparatus. It also provides health surveillance and radiation monitoring for radiation worker, maintains the metrology standards for environmental and occupational protection level radiation dosimetry measurements, and provides the related standard calibration services. The RHU advises the government on the protection of public health in nuclear incidents and management of radioactive substances and wastes.

In 2013, the RHU assessed and issued about 12,300 and 3,900 licences/permits under the Radiation Ordinance and the Import (Radiation) (Prohibition) Regulations respectively and monitored 10,952 occupationally exposed persons. The average radiation exposure of occupationally exposed persons was 0.12 mSv against the annual statutory limit of 20 mSv.

Regulation of Medical Devices

Under the DH's voluntary Medical Device Administrative Control System, medical devices are classified into four classes based on their risk levels. Products that conform to requirements on safety and are effective as declared can be listed. Manufacturers and traders must comply with the relevant listing requirements and management measures, and report adverse incidents. The DH maintains lists of high-risk and medium-risk medical devices, and high-risk in-vitro diagnostic medical devices. In 2013, the DH approved 658 applications for new listing medical devices, and handled 1,261 safety alerts and eight adverse incident reports.

Training of Medical and Health Personnel

Doctors

Degree courses in medicine and surgery are offered at the University of Hong Kong and the Chinese University of Hong Kong, which admitted a total of 420 medical students to the six-year bachelor degree programme in 2013. In 2013, 46 medical graduates with professional qualifications obtained outside Hong Kong passed the licensing examination conducted by the Medical Council of Hong Kong.

The Hong Kong Academy of Medicine is an independent statutory body which approves, assesses and accredits specialist training within the medical and dental professions. Its 15 colleges conduct training and examinations to award specialist qualifications to qualifying candidates.

The HA also trains specialist doctors. Each year, the majority of medical graduates of the two local universities are offered appointment to the HA for specialist training while working in the HA. The HA recruited about 290 doctors for specialist training in 2013 and some 310 doctors completed training at the HA and obtained specialist qualifications.

Dentists

Degree courses in dentistry are available at the University of Hong Kong, which admitted 52 dental students to its six-year bachelor degree programme in 2013. In 2013, six candidates who completed their dental training outside Hong Kong passed the licensing examination conducted by the Dental Council of Hong Kong.

Chinese Medicine Practitioners

The Chinese University of Hong Kong, the Hong Kong Baptist University and the University of Hong Kong offer full-time undergraduate degree courses in Chinese medicine. In 2013, 102 full-time local Chinese medicine bachelor's degree graduates who passed the licensing examination were registered as Chinese medicine practitioners (CMPs).

The public Chinese medicine clinics operating under a tripartite model involving the HA, NGOs and local universities are required to employ new graduates of Hong Kong degree courses in Chinese medicine as junior CMPs and to provide them with three years of training. As at the end of 2013, the 17 public clinics provided 68 CMPs places for their first year of training and 136 CMPs places for their second and third years of training.

Allied Health Professionals

The Hong Kong Polytechnic University offers degree programmes for allied health professionals in physiotherapy, radiography, occupational therapy, medical laboratory science and optometry. In 2013, 110, 98, 90, 44 and 34 students enrolled in these programmes respectively.

The HA's Institute of Advanced Allied Health Studies devises structured long-term training plans for allied health staff and runs courses on specialist and multi-disciplinary training, clinical and personal development. These include a three-year in-service training course for new recruits of

allied health grades. In 2013, 60 training courses and a number of overseas scholarships were offered.

Nurses

The University of Hong Kong, the Chinese University of Hong Kong, the Hong Kong Polytechnic University, the Open University of Hong Kong and the Tung Wah College provide pre-registration nursing training. They recruited 1,255 nursing students into their five-year full-time nursing degree programmes in 2013. In addition, the Hong Kong Polytechnic University and the Chinese University of Hong Kong enrolled another 115 nursing students into their three-year Master's Degree of Nursing programmes.

The Hong Kong Baptist Hospital, the Hong Kong Sanatorium and Hospital, St Teresa's Hospital, the Union Hospital and the Tung Wah College provide pre-enrolment nursing training. They recruited 329 pupil nurses into their two-year Higher Diploma or Diploma in Enrolled Nurse (General) training programmes in 2013. In addition, the Open University of Hong Kong enrolled 131 and 71 pupils into their two-year Higher Diploma in Nursing programme and Higher Diploma in Mental Health Nursing programme respectively. During 2013, 40 nurses with professional nursing qualifications obtained outside Hong Kong passed the Nursing Council of Hong Kong's licensing examination and were awarded practising certificates for registered nurses or enrolled nurses.

The HA's three-year higher diploma programme provides basic registered nurse training and 300 registered nurse students were recruited in 2013. The HA also recruited 135 pupil nurses to its two-year enrolled nurse basic training programme in 2013 and recruited 195 pupil nurses to its two-year enrolled nurse basic training programme for the social welfare sector.

The HA's Institute of Advanced Nursing Studies seeks to strengthen specialty care training for nurses and encourage them to improve professional standards through continuous learning. The institute provides simulation training for new nursing graduates to strengthen their skills in clinical care and handling medical emergencies. It also provides experienced nurses with clinical leadership training to enhance their clinical management skills and scholarships to attend overseas training for international exposure.

Laboratory Services

Government Laboratory

The Government Laboratory offers a comprehensive range of analytical, investigatory and advisory services to support the government in upholding its various commitments to the protection of public health. In the financial year 2012-13, it spent \$181.65 million on providing analytical services for the protection of public health.

In 2013, a total of 193,840 tests were carried out on a wide range of foods to ensure they were fit for consumption and complied with the legal requirements. The laboratory also conducted 17,111 tests arising from investigations into food complaints. The laboratory outsources some routine testing work to commercial laboratories to optimise its resources for developing new

food testing methods and conducting more analytical work resulting from the broadened scope of food surveillance operations.

The laboratory also provides services for analysing the quality and safety of Western and Chinese medicine. In 2013, it carried out over 56,600 tests on Western pharmaceutical products and over 86,400 on Chinese medicine to ensure they met recognised quality and safety standards, including tests on proprietary Chinese medicines to ensure they were not adulterated with Western drugs, controlled substances, or harmful ingredients. The laboratory provided support for investigations on undeclared Western drug ingredients and incidents of intoxication suspected to have been caused by misused or contaminated herbs in Chinese medicine. The laboratory assists the DH in the development of Hong Kong Chinese Materia Medica Standards. It also conducts year-round surveillance of tar and nicotine yields in cigarettes, and over 13,600 checks on data declared by tobacco traders, and regularly releases the results to the public.

Public Health Laboratory Services

The DH's Public Health Laboratory Services Branch conducts laboratory tests for clinical and surveillance specimens and provides clinical diagnostic and public health laboratory services to the public and private health sectors for patient care and for other public health purposes. The branch conducted more than five million such tests in 2013.

The branch's Public Health Laboratory Centre has been designated by the WHO as the National Influenza Centre, the National Poliovirus Laboratory, the National Measles Laboratory, a Supranational TB Reference Laboratory, a Regional Reference Laboratory for measles, as well as one of the Influenza A(H5) Reference Laboratories and one of the SARS Reference Laboratories worldwide.

Hospital Laboratory Services

Hospital laboratories in the HA's regional hospitals provide a wide range of laboratory services in anatomical pathology, chemical pathology, haematology, blood bank, microbiology, immunology and tissue typing to ensure that all public hospitals, including those without on-site laboratories, have access to comprehensive laboratory services. These laboratories are supported by advanced information technology systems and automated devices to achieve operational efficiency. They are also accredited by a number of local and international accreditation bodies and carried out more than 254 million tests in 2013.

Auxiliary Medical Service

The Auxiliary Medical Service (AMS) is a government department under the Security Bureau, staffed by 96 civil servants. It provides government-financed services through 4,602 volunteers and 1,000 cadets. Volunteers come from all walks of life and include doctors, nurses, pharmacists and paramedical personnel. All AMS members are qualified Disaster Medical Assistants. The main role of the AMS is to reinforce regular medical, health and ambulance services during emergencies and to provide backup during normal times. The AMS Cadet Corps provides youths aged between 12 and 17 with specific training in discipline and skills, and an orientation towards civic duty.

The AMS First Aid Bicycle Team provides first aid coverage along the cycling tracks between Sha Tin and Tai Po and mans the first aid posts on the tracks in Ma On Shan, Sha Tin and Tai Po during weekends and public holidays. In 2013, the team deployed about 6,379 man-hours of services. The AMS also runs programmes on first aid at schools and gives talks to the public on heart disease, cardiopulmonary resuscitation, drug abuse and other health related subjects.

In April, in response to the emergence of avian influenza A (H7N9) cases, the AMS assisted the DH in screening the temperature of all inbound visitors at various boundary control points.

Websites

Auxiliary Medical Service: www.ams.gov.hk

Centre for Health Protection: www.chp.gov.hk

Department of Health: www.dh.gov.hk

eHealth Record Office: www.eHealth.gov.hk

Food and Health Bureau: www.fhb.gov.hk

Healthcare Reform: www.myhealthmychoice.gov.hk

Hospital Authority: www.ha.org.hk

Organ Donation Website under the Department of Health: www.organdonation.gov.hk