

# 1 OVERVIEW OF CHILD HEALTH IN HONG KONG

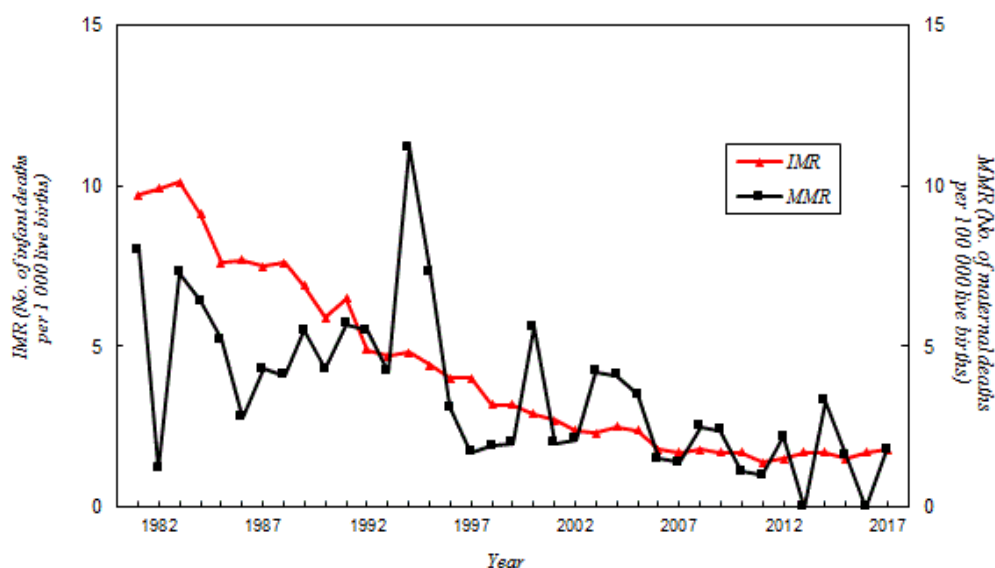
Hong Kong has observed significant changes in child health indices over the last six decades. For example, the infant mortality rate has declined sharply from around 100 per 1 000 live births (LB) in the immediate post Second World War period to only 1.7 in 2009. The neonatal mortality has dropped from 36 to 0.7 per 1 000 LB in the same period<sup>12</sup>. Important changes and improvements have also been observed in the socio-economic conditions, healthcare delivery, education, lifestyle and standard of living which might all have contributed to the improvements in various healthcare parameters.

This section gives an overview of child health in Hong Kong by depicting health issues that are of special importance in childhood, including vital statistics, immunisation, breastfeeding and nutrition, developmental problems, mental and behavioural problems, childhood obesity, oral health, injury, risk behaviours and common chronic conditions in childhood.

## 1.1 Vital statistics

Infant Mortality Rate (IMR) and Maternal Mortality Ratio (MMR) in Hong Kong were low by world standard. IMR (defined as number of registered infant deaths per 1 000 registered live births) and MMR (defined as number of registered maternal deaths per 100 000 registered live births) are two important measures of the well-being of infants and pregnant women because they are associated with a variety of factors, such as maternal health, quality of and access to medical care. As shown in Figure 1, the IMR has been declining steadily over the years, from 9.7 per 1 000 live births in 1981 to 1.8 in 2017. While the MMR fluctuated at the range from 0 to 11.2 per 100 000 live births between 1981 and 2017, number of maternal deaths remained at low level in recent years. However, it should be noted that due to the small number of maternal deaths, MMR is likely to fluctuate even with an increase or decrease of one maternal death<sup>3</sup>.

Figure 1. Infant Mortality Rate (IMR) and Maternal Mortality Ratio (MMR), 1981 - 2017



Notes: The mortality and birth statistics are based on number of “registered” deaths and births.

On the other hand, Hong Kong used to have one of the lowest birth rates in the world and has experienced steep declines in fertility. The crude birth rate (defined as number of live births per 1 000 population) went down from 13.0 in 1986 to 7.0 in 2003, which was the lowest among developed countries, albeit it rebounded to 13.5 in 2011 before dropping to 8.3 in 2016.<sup>2</sup> In 2001, the Court of Final Appeal ruled that babies born in Hong Kong to Chinese nationals have the right of abode in Hong Kong. As a result, the number of babies born in Hong Kong to Mainland women whose spouses are not HK permanent residents increased significantly, from 620 in 2001 to 35 736 in 2011. Since the implementation of the zero-quota policy on obstetric services for Mainland women whose spouses are not Hong Kong residents in 2013, the number of these babies dropped to low levels, at only 606 in 2016. The total fertility rate (defined as number of children born alive per 1 000 women aged 15-49) also fell from 1 367 per 1 000 women aged 15-49 in 1986 to 901 in 2003 and then rebounded to 1 205 in 2016.<sup>2</sup> It is worth to note that the total fertility rate is the most commonly used indicator to measure the fertility level of an economy. Generally speaking, a total fertility rate less than 2 100 per 1 000 women aged 15-49 implies that the generation does not have enough children to exactly “replace” itself in the population.

## 1.2 Immunisation

A territory-wide immunisation coverage survey on children aged two to five conducted by the Department of Health (DH) in 2009 showed that the immunisation coverage rates for vaccines included in the Hong Kong Childhood Immunisation Programme (HKCIP) were consistently higher than 98%<sup>4</sup>. Results from the Child Health Survey conducted in 2005 and 2006 also showed that over 93% of children aged 0 to 14 years had received vaccinations according to the recommended immunisation schedule<sup>5a</sup>. (see Module on Immunisation)

## 1.3 Breastfeeding, nutrition and food safety

With the concerted effort of the government and various sectors of the community in promoting breastfeeding, the local breastfeeding rates have been on the rise. DH has all along monitored the trend of the local ever breast-feeding rates from hospitals with maternity units. The ever-breastfeeding rate on hospital discharge has increased from 18% in 1992 to 87% in 2016. Besides, DH conducts biennial Breastfeeding Surveys in its Maternal and Child Health Centers. The exclusive breastfeeding rate at 4 months has also increased from 19% for babies born in 2012 to 31% for babies born in 2016.<sup>6</sup>

The practices of feeding infants and young children are affected by a multitude of socio-economic, cultural and environmental factors. In April 2014, the Committee on Promotion of Breastfeeding was set up by the Food and Health Bureau to provide advice on strategies and action plans to further protect, promote and support breastfeeding in Hong Kong and to oversee their effective implementation. Various measures have been implemented, which include strengthening the publicity and education on breastfeeding; strengthening professional support for breastfeeding in healthcare facilities (e.g. through implementing the Baby-Friendly Hospital Initiative); supporting working mothers to sustain breastfeeding by

encouraging the community to adopt breastfeeding friendly workplace policy; promoting and supporting breastfeeding in public places through promotion of breastfeeding friendly premises and provision of baby care facilities; promulgating the Hong Kong Code of Marketing of Formula Milk and Related Products, and Food Products for Infants & Young Children; and strengthening the surveillance on local breastfeeding situation.

Breakfast skipping is an international public health concern. A study on the prevalence of breakfast skipping among primary 6 students in Hong Kong showed that 30.5% of the respondents reported skipping breakfast for at least 1 day in a school week. It was also found that breakfast skipping was associated with lack of perceived parental emphasis on breakfast and not believing that breakfast consumption could help concentration in class<sup>9</sup>. In another study, results showed that regardless of gender, less than half of the sample ate breakfast every day, and their consumption of fruits and vegetables was below recommended daily intakes. No significant difference was observed between respondents' eating habits and levels of food knowledge. Female students were more weight conscious than male students. Dissatisfaction about body weight was common among normal and underweight students<sup>10</sup>.

The Centre for Health Protection conducted a study in 2008 on dietary patterns in primary 4 and primary 5 school children. Findings showed that school children who possessed good knowledge of healthier food options did not necessarily synchronise with what they chose in food preference. School children considered 'cleanliness and hygiene', 'good for health' and 'taste' the key factors affecting their choice of food. While most school children perceived their eating habits as 'healthy' or 'acceptable', 9.8% to 25.6% reported that they did not have any fried/deep-fried food, food high in fat / sugar / salt, or drinks with added sugar. Compliance with the recommended intake of fruits, dairy products and vegetables by the students was 57.5%, 77.4% and 78.7%, respectively<sup>11</sup>. These findings suggested that there is a need to enhance school children's practice on eating breakfast and right amount of various foods and that they should be taught to avoid having distorted body images. A more recent study revealed that our children's diet was unbalanced. The food consumption pattern of children aged 12 months and above was characterized by inadequate intake of vegetables and fruits, high intake of protein-rich foods and formula milk. Over 60% had vegetable intake and over 30% had fruit intake below the recommended level. The proportion of children with meat/fish/egg/legume intake higher than the recommended level increased with age, from 12.9% in the 12-month group, to 34.3% in the 48-month group. The survey revealed a high consumption of milk by children, with 69.6% in 12-month group, 47.6% in 18-month group, 35.7% in 24-month group and 9.9% in 48-month group consuming more than the recommended amount of 2 cups (480 ml) per day. It was also found that children who drank more milk (mainly formula milk) than the recommended volume generally consumed a smaller amount of grains, vegetables and fruits<sup>12</sup>.

As for nutritional supplement, a local survey was conducted in 2010 in three kindergartens where parents were asked about the frequency and types of nutritional supplements given to their children. The most common type was cod fish oil and was given by 69% of the responding parents, 59% gave vitamins alone while 26% gave vitamins with minerals combined. However, about one-third of the parents did not know the possible side effects of overdose of nutritional supplements. Thus public education in the proper use of nutritional supplements is needed<sup>13</sup>.

As for the concern on food safety, a local study<sup>14,15</sup> was conducted to assess synthetic colours in common snack foods consumed by children. Dietary exposure to synthetic colours for primary school children was found to be on average considerably lower than the latest acceptable daily intakes established by the Food and Agriculture Organization / World Health Organization (WHO).

## 1.4 Developmental issues, mental and behavioural problems

The statistics from the Child Assessment Service of the Department of Health which serves children from birth to 12 years of age on new cases diagnosed for various conditions in 2010 revealed that language delay/disorders and borderline developmental delay were the areas with the largest numbers of new cases (Table 1). The figures were based on children who accessed the services<sup>16</sup>, the actual prevalence in the community remains unknown.

Table 1. Number of new cases diagnosed for various conditions in 2010 at Child Assessment Service, Department of Health

Diagnostic Categories	No. of new cases by years				
	2010	2009	2008	2007	2006
<b>I. Developmental problems</b>					
a) Borderline developmental delay	1930	1664	1437	1563	1514
b) Significant developmental delay/ mental retardation	1111	1028	1012	905	918
c) Language delay and speech problems	2493	2340	2014	2410	2443
d) Dyslexia and mathematics disorders	710	809	677	977	883
e) Attention problem / disorders	2084	1703	1220	1387	1250
f) Autistic Spectrum disorder	1790	1452	1023	887	755
<b>II. Motor impairment</b>					
a) Developmental coordination problem/disorders	1088	997	993	1181	1046
b) Developmental motor delay (preschool)	785	821	763	563	654
c) Cerebral Palsy	64	47	71	61	68
<b>III. Visual impairment (blind or low vision)</b>	47	31	41	36	41
<b>IV. Hearing impairment (moderate grade or worse)</b>	67	83	68	67	63
<b>V. Other psychiatric / psychological difficulties</b>	565	458	313	412	338

The followings are the prevalence of physician diagnosed emotional and behavioural problems, according to the Child Health Survey in 2005-2006, in children aged 2 to 14 years <sup>5a</sup>:

Attention deficit hyperactivity disorder:	0.7%
Anxiety:	0.1%
Autism:	0.1%
Depression:	0.1%
Other behavioural problems:	0.4%

In a study on adolescent boys and girls using DSM-IV criteria published in 2008, the overall prevalence estimate of DSM-IV disorders in high school students was 16.4%. The prevalence estimates of some common DSM-IV disorders in Hong Kong are<sup>17</sup> :

Anxiety disorders:	6.9%
Depressive disorders:	1.3%
Attention deficit hyperactivity disorder:	3.9%
Oppositional defiant disorder:	6.8%
Conduct disorder:	1.7%
Substance use disorders:	1.1%

In current international literature, the term “autism spectrum disorder” (ASD) is increasingly used. ASD includes not only autism disorder but also Asperger disorder and pervasive developmental disorder – not otherwise specified. Recent overseas epidemiological studies showed that the prevalence rate for ASD was around 1%. If using a narrower definition of childhood autism, which combined clinical consensus with instrumental criteria for past and current presentation, the prevalence was estimated to be 24.8 per 100 000 children aged 9-10 years<sup>18,19</sup>. In a local study investigating the epidemiologic pattern of autism spectrum disorder in Chinese children less than 15 years old in 1986-2005, it estimated that the overall incidence rate of autism spectrum disorder was 5.5 per 10 000 per annum and the average prevalence was 16.1 per 10 000 over the 20-year study period. The male to female ratio was 6.6:1. The incidence rate found in this study was similar to those reported in Australia and North America and lower than that in Europe<sup>20</sup>.

Based on the data of the normative study of the “Hong Kong test of specific learning difficulties in reading and writing” and the “Test of visual-perceptual skills (non-motor) – Revised” in the academic year 1999/2000, the prevalence rate of dyslexia in Hong Kong was estimated to be 12.6% among school-aged children and the boy to girl gender ratio was 1.6:1<sup>21</sup>.

In a survey conducted in Great Britain in 1999, it was found that 10% of children aged 5-15 years had a mental disorder (5% had clinically significant conduct disorders; 4% were assessed as having emotional disorders including anxiety and depression, and 1% were rated as hyperactive). The less common disorders (such as autistic disorders, tics and eating disorders) were attributed to 0.5% of the sampled population. Among 5-10 year olds, 10% of boys and 6% of girls had a mental disorder while the proportions of any mental disorder among the 11-15 year olds were 13% for boys and 10% for girls<sup>22</sup>.

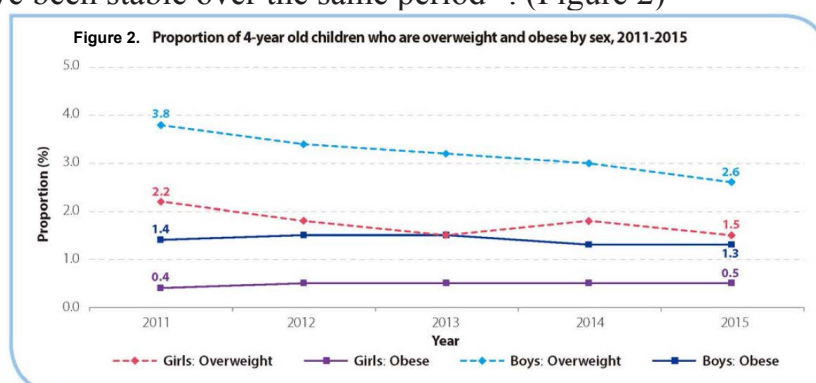


A large-scale survey conducted in 2001 among local school children aged 10-16 revealed that 27% of the students felt hopeless and 10% felt lonely most of the time. About 15% of students had considered suicide and nearly 10% had planned for it. Less than 40% would seek help from their parents. About one quarter of the surveyed students would seek help from teachers or social workers when they had suicidal thoughts. About 36% of students had depressive symptoms which were found to be associated with a number of factors such as considering suicide or hurting themselves, lack of regular exercise, unhealthy eating habits, smoking, drinking alcohol, taking illicit drugs, and report of being threatened in school or involved in fighting. Amongst those with depressive symptoms, only 31.7% performed exercise regularly versus for those without depression, 68.3% did so. Around 25% of students with depressive symptoms had considered suicide and hurt themselves versus less than 10% of those without depressive symptoms. Those with depressive symptoms were more likely to have unhealthy eating habits, smoke, drink alcohol or take illicit drugs. They were also more likely to report being threatened at school or involved in fighting<sup>23</sup>. (For other risk behaviours in the younger population, please refer to section 1.10)

## 1.5 Childhood obesity

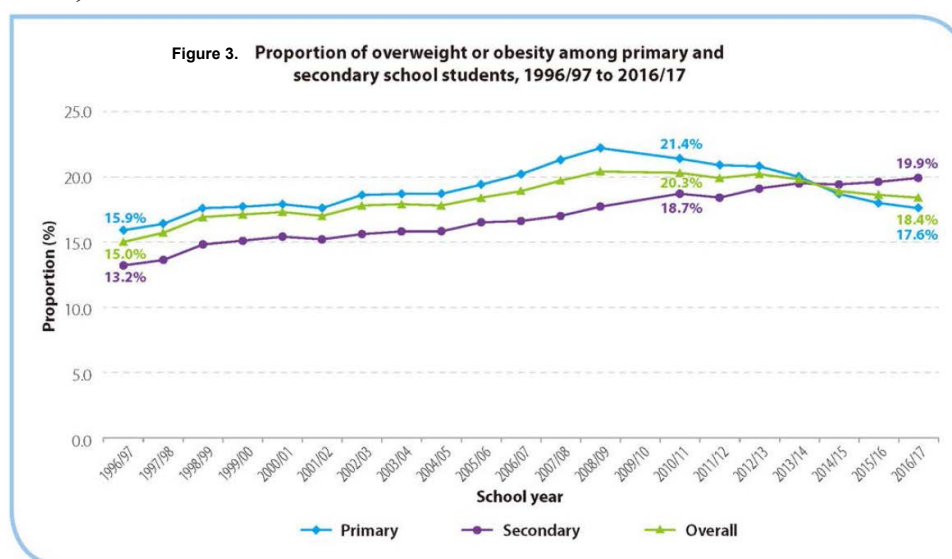
Childhood obesity is a major public health issue, both globally and locally. Studies have shown that obesity takes its toll on children's health directly. For example, type 2 diabetes used to be rare among children, but it has now been found in children as young as 4 years of age<sup>24</sup>. Moreover, children who become obese before 6 years of age are likely to stay obese throughout childhood and often persist into adolescence and adulthood<sup>25,26</sup>, thereby increasing their risk of metabolic disorders, cardiovascular diseases and other chronic health conditions in later life. Beyond adverse effects on physical health, obesity may have a profound negative influence on children's psychological well-being too. Obese children are more prone to low self-esteem, negative body image and depression.

In Hong Kong, a cross-sectional survey in 2010 adopting the WHO Child Growth Standard (2006) had found that 12.7% and 2.7% of the studied children were classified as “having possible risk of overweight” (BMI for age z-score between 1 and 2) and “overweight or obesity” (BMI for age z-score over 2) respectively. The proportion of ‘overweight or obese’ children increased from 1.2% in the 12-month group to 3.8% in the 24- and 48-month groups<sup>12</sup>. Routine clinical data of weight and height of 4-year-old children attending Maternal and Child Health Centres (MCHCs) for services revealed that the proportions of overweight boys and girls decreased from 3.8% and 2.2% in 2011 to 2.6% and 1.5% in 2015 respectively. The proportions of obese boys (1.3%-1.5%) and girls (0.4%-0.5%) have been stable over the same period<sup>27</sup>. (Figure 2)



Source: Routine clinical data of weight and height of 4-year-old children attending Maternal and Child Health Centres, Department of Health

Using local definition<sup>Note</sup> of overweight (including obesity), the proportion of students considered overweight or obese increased from 15.0% in 1996/97 to 20.3% in 2010/11 and then decreased to 18.4% in 2016/17. As shown in the chart below (Figure 3), the corresponding proportion for primary school students decreased from 21.4% in 2010/11 to 17.6% in 2016/17, while the corresponding proportion for secondary school students continued to rise, from 18.7% in 2010/11 to 19.9% in 2016/17<sup>27</sup>.



**Note:** In 2009/10 school year, the Student Health Service of the Department of Health had to take part in the Human Swine Influenza Vaccination Programme, and therefore annual appointments were only provided to Primary 1 to Secondary 1 students. Due to the incomplete coverage, the detection rates for 2009/10 school year were not shown.

**Source:** Data based on anthropometric measurement of primary and secondary students attending Student Health Service Centres, Department of Health

## 1.6 Physical activity

In a population-based survey of Hong Kong primary four to primary six school children conducted in 2006-2007, the population estimates for total moderate-to-vigorous activity time spent per week were measured: boys (389 minutes per week) were more active than girls (375 minutes per week), while primary six school children (443 minutes per week) were more active than primary four (366 minutes per week) and primary five (363 minutes per week) school children<sup>31</sup>.

The Hong Kong Student Obesity Surveillance investigated the prevalence of exercise and non-exercise physical activity (NEPA) among adolescents. In the study, exercise was defined as structured and planned physical activities (for at least 60 minutes), and NEPA was defined as unstructured and unplanned physical activities including walking for transportation and climbing stairs (for at least 60 minutes). It was found that the prevalence of exercise was higher in boys than girls (after school: 63.8% vs 39.6%; holidays: 78.7% vs 60.0%), but the prevalence of NEPA in boys was similar to that in girls (after school: 72.2% vs 68.0%; holidays: 80.3% vs 79.4%). In general, the prevalence of both exercise and NEPA decreased with age in boys and girls, but was more marked for exercise than NEPA. In conclusion, the prevalence of exercise was lower in adolescent girls than boys, and decreased more rapidly with age than NEPA. NEPA seems to be easier to accumulate than exercise among adolescents regardless of sex and age<sup>32</sup>.

Note: According to local definition: “overweight (including obesity)” is defined as weight exceeding 120% of the median weight-for-height for male students with height between 55 and 175cm and for female students with height between 55 and 165cm; and BMI  $\geq 25$  kg/m<sup>2</sup> for male students with height >175cm and for female students with height >165cm

## 1.7 Oral health

The result of the population-wide oral health survey carried out in Hong Kong in 2011 showed that for 5 year-old children, more than 90% of the decayed teeth were left untreated. About 50% of the 5 year-old population was affected by tooth decay. Tooth decay was found to be unevenly distributed, with 81.2% of the decayed teeth being found in 26.2% of children. This sub-group of children were considered as high-risk in developing more decay<sup>33</sup>. In another study conducted in 2009, the prevalence and severity of dental caries experience in the preschool children revealed similar findings<sup>34</sup>.

Prevalence and severity of dental caries in the permanent dentition of 12 year-old school children was low. As reported by the oral health survey, the prevalence of caries experience among 12-year-old children in 2011 was 22.6% and most of them had only one or two teeth with decay experience. The oral health care habits of the 12-year old students were generally satisfactory.<sup>33</sup> The rate of children aged below 15 having their teeth regularly checked up (50%) was highest when compared to older age groups.<sup>35</sup>

## 1.8 Vision health

A local study conducted in 2005/06 in children aged from 0 to 14 years revealed that the prevalence of visual impairment was 27.3%. Among these children, the three most frequently reported visual problems were short-sightedness (82.1%), astigmatism (35.8%) and long-sightedness (7.6%), while 83.2% of them were reported to use prescribed glasses or contact lenses<sup>5a</sup>. In a cross-sectional population-based local survey among preschool children conducted in 2006-07, it was found that 6.3% of the study population had myopia, 5.7% had astigmatism, 1.6% had anisometropia, 2.7% had reduced visual acuity, 5.1% had hyperopia, and 1.7% had manifest strabismus<sup>36</sup>.

Hong Kong school children develop myopia as early as 6 years old and myopia progresses at a greater rate compared with children of European extraction<sup>37</sup>. A recent longitudinal study found that the prevalence was 11% at age 7 years and 55% at age 12 years<sup>38</sup>. The same study also reported the annual incidence rates of myopia increased from 9% at age 7-8 years to 18% at age 11-12 years, with an average incidence of 12.6%.

In a large local study of primary school children aged 6-15, about 37% of the study population were found to have myopia, which was also the most common refractive error. The study also showed that the overall incidence rate of myopia was 144.1 per 1 000 primary school children per annum. Increasing age was positively correlated with increased incidence and prevalence of myopia. Children aged 11 years were almost 15 times more likely to have myopia than those aged below 7 years<sup>39</sup>.



Another cross-sectional survey conducted among local school children aged 6-12 years estimated that the prevalence of myopia (more than -0.5D) increased from 18.3% in the 6-year-old group to 61.5% in the 12-year-old group. Prevalence of high myopia (more than -6.0D) increased from 0.7% in the 6-year-old group to 3.8% in the 12-year-old group<sup>40</sup>.

The increase in prevalence of myopia over one or two generation strongly suggested that Chinese children have a susceptibility to some environmental factors, with intensive and competitive education being implicated. On the other hand, a study comparing cohorts among different studies within a span of two decades did not observe any increasing trend for prevalence and severity in myopia, suggesting that myopia development among the children population aged around 6-12 years might have had reached its highest capacity<sup>41</sup>.

The Module on Childhood Injury Prevention has been released. Please refer to the module for more details.

## 1.9 Injury

Childhood injury is a major cause of child death and disability. According to the estimates by the World Health Organization in 2004<sup>42</sup>, about 950 000 children under 18 years old died because of injury every year worldwide. It is a leading cause of death in children aged between 1 and 18 years<sup>43</sup>.

In Hong Kong, a review was conducted about the child death cases that occurred from 2006 to 2013 and were reported to the Coroner's Court. The review showed that 111 cases died of accidents, with traffic (39.6%), fall (21.6%), drowning (16.2%) and choking (9%) being the leading types of fatal accidents<sup>44</sup>.

A local survey of caregivers of children suffering from unintentional residential childhood injuries and admitted to three selected local Accident and Emergency Departments (AED) revealed that falls, cuts and scalds were the most common external causes and boys predominated in the sample population. Most of the observed unintentional residential childhood injuries were of moderate to mild severity. Children of new immigrant mothers were more likely to receive first aid immediately after the incidents. Parents were aware of potentially injurious behaviour and intervened on occasion, but most resorted to verbal warnings only. The findings showed that parents were concerned with unintentional residential childhood injuries but often lacked substantial action that could modify injury risk. Considering the local injury differentials, an active prevention effort such as behavioural intervention and education for parents may be useful<sup>45</sup>.

Based on statistics from Hospital Authority, from 2001 to 2009, there were a total of 619 141 AED attendances due to trauma and 98 895 admissions with external cause of injury codes in people aged 0-19 years. On average, about 63 000 attended AED and 11 000 admitted for trauma per year. Injury was a major cause of mortality, morbidity and disabilities.

As a large number of injury victims only received medical treatment in the out-patient setting or even did not seek any medical advice, a cross-sectional community survey on injury in Hong Kong was conducted in 2008. Among some 9 000 persons from more than 3 000 households interviewed, it was found that 5.0% of the children aged 14 or below had sustained injury episodes in the 12 months before enumeration, which amounted to 44 100 children in the local population. Fall (41.9%) was the most frequently reported type of injury, followed by sports (20.7%) and hit/ struck (10.2%)<sup>46</sup>. Parental attitude on injury prevention by safety practices were also found to be inadequate.

## 1.10 Risk behaviours in the younger population

### 1.10.1 Smoking

The overall smoking prevalence in Hong Kong had decreased from 14% in 2005 to 12% after legislation was enforced in 2007 to prohibit smoking in all indoor workplaces, restaurants, karaokes, most public places/parks and all beaches. The prevalence continued to decrease steadily over the past 10 years to 10% in 2017<sup>47a</sup>. The smoking prevalence among Hong Kong adolescents (aged 15-19) had also decreased from 3.5%<sup>47b</sup> in 2008 to 1.0% in 2017<sup>47a</sup>. Majority of the smokers started smoking at an early age. Among the daily cigarette smokers, 62.6% started smoking cigarette weekly before the age of 20<sup>47a</sup>. Among Primary 4 to 6 students, the prevalence rates of ever and current smoking were 2.1% and 0.1% respectively. The prevalence rates of ever and current smoking among Secondary 1 to 6 students were 12.7% and 2.5% respectively.<sup>47a</sup>

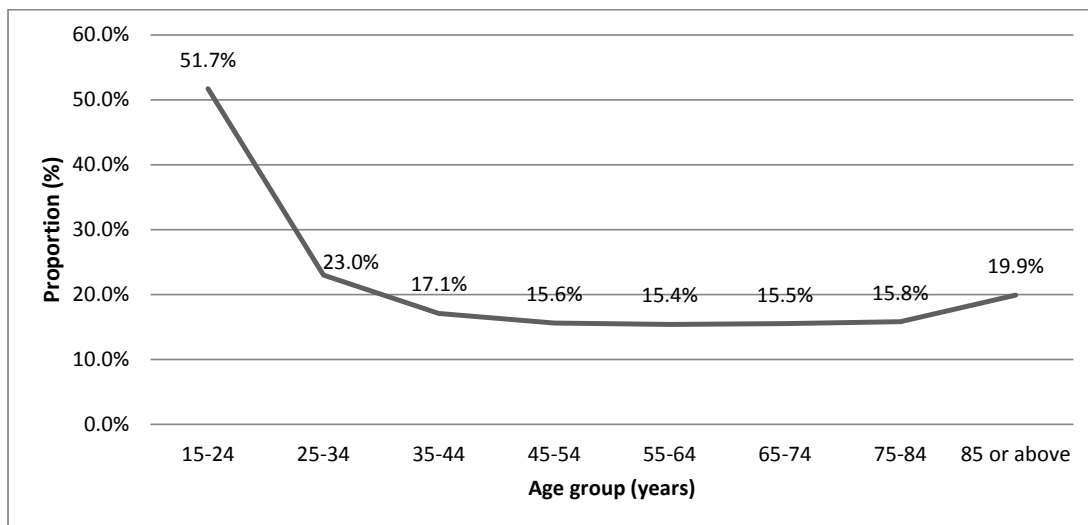
Although about 90% of youth do not smoke, the prevalence of current and ever smoking in youth were still alarming. Evidence showed that early uptake of smoking was associated with heavier smoking patterns, less likelihood of quitting, and higher probability of becoming ill from a smoking related disease<sup>52</sup>. Public and health professionals need to work together with teachers and parents to set good examples for school-aged children and to provide them with the necessary health education and a non-smoking environment both at home and at school.

### 1.10.2 Alcohol consumption

During the 2015/16 school year, the proportion of students who had binge drinking<sup>Note</sup> at least monthly was 1.0%. The corresponding figures for primary and secondary school students were 0.8% and 1.2% respectively<sup>27</sup>. Furthermore, the Population Health Survey in 2014/2015 showed that the prevalence of having started drinking before 18 years of age was higher among the younger cohorts (Figure 4)<sup>5b</sup>.

Note: "Binge drinking" is defined as having 5 or more cans/glasses of alcoholic drinks in total (approximately 60 grams of pure alcohol) within a few hours.

Figure 4. Proportion of respondents started drinking below age of 18 by age group



According to the report of Towards 2025 Strategy and Action Plan to Prevent and Control Non-communicable Diseases in Hong Kong, the ever drinking, 12-month drinking and 30-day drinking rates for primary 4-6 and secondary 1-6 students showed a downward trend between 2008/09 and 2014/15, corresponding rates for post-secondary students either did not fall or showed a rising trend as illustrated by the below table (Table 3) <sup>27</sup>. Evidence from overseas studies found that the younger the drinking age, the greater is the chance of becoming dependent on alcohol<sup>54,55,56</sup>. Therefore, alcohol consumption among young people in Hong Kong is a cause of concern.

Table 3. Prevalence of alcohol use among primary 4-6, secondary 1-6 and post-secondary students in 2008/09, 2011/12 and 2014/15

School year	2008/09	2011/12	2014/15
<b>Ever drinking (%)</b>			
Primary 4-6	40.1	28.3	26.0
Secondary	64.9	59.0	56.8
Post-secondary	78.6	77.7	78.7
Overall	61.4	56.0	56.2
<b>12-month drinking (%)</b>			
Primary 4-6	20.9	14.5	13.4
Secondary	46.1	42.6	39.2
Post-secondary	64.6	65.7	67.1
Overall	43.4	41.0	41.3
<b>30-day drinking (%)</b>			
Primary 4-6	10.1	4.6	3.9
Secondary	24.2	18.7	17.7
Post-secondary	37.5	33.1	37.6
Overall	23.2	18.4	20.2

Source: Survey of Drug Use among Students, Narcotics Division of Security Bureau

### **1.10.3 Drug abuse**

Drug abuse remains a considerable cause of concern among students given the harmful effects in terms of health, social and economic ramifications associated with the inappropriate use of these drugs. It is defined as the taking of drug which harms or threatens to harm the physical, mental or social well-being of an individual, in doses above or for periods beyond those normally regarded as therapeutics. According to the survey of drug use among students conducted in 2014/15, the number of lifetime drug-taking students was estimated to be 14,500. The percentage of lifetime drug-taking secondary students was the same at 2.3% in both 2011/12 and 2014/15. The prevalence rate of 30-day drug taking was 0.5% for secondary students<sup>57</sup>.

In the 2014/15 survey, “cannabis”, “codeine/cough medicines”, “ketamine” and “cocaine” were the four most common drugs taken by secondary students, representing 57.9%, 15.6%, 15.1% and 15.1% respectively. This pattern was different with that observed in the 2011/12 Survey. In 2011/12 Survey, the four most common drugs taken by secondary students were “cannabis”, “ketamine”, “ice” and “cocaine” representing 42.9%, 36.1%, 22.3% and 19.3% respectively. For reasons of drug abuse, “curiosity” remains as the most common reason for first time drug-taking secondary students to take drugs (58.6% in 2014/15 and 55.5% in 2011/12). Other common reasons reported in the 2014/15 Survey were “friends’ influence” (24.6%) and “to seek excitement” (20.2%)<sup>57</sup>.

### **1.10.4 Sexual health**

A local survey was conducted in 2008 to study young people’s attitude towards sex in order to identify service needs and improve current service provision. Their sample included young people aged 11 to 18 years. Among the 1 200 respondents, 63.4% of them had sexual intercourse experience, and the average age of first sexual intercourse was 14.4, with half of them having such experience before the age of 14 years<sup>58</sup>. According to the Youth Sexuality Study 2016 conducted by the Family Planning Association of Hong Kong, 1-2% of F.1-F.2 students and 6-7% of F.3-F.6 students had experienced sexual intercourse. The mean age of first sex among the F.3-F.6 students who had commenced sexual intercourse was at 15 years old<sup>59</sup>.

Regarding sex education, a local survey conducted in 2008 aiming to explore secondary school children’s views on sex education revealed that the top preferences (respondents could choose more than one) for sex education topics were: love/dating (33.8%), how to get along with lover (31.8%), sexual urge/ sexual fantasy (23.5%) and sex crime/sex and law (23.4%). This showed that there was a mismatch between what were actually taught in school with the school children’s preferences. In fact, the 4 topics that were most frequently taught in schools were dating (50.9%), how to get along with lover (42.6%), puberty (33.5%) and pre-marital sex (27.6%). The secondary school children also thought that the most suitable people delivering sex education were: teachers (44.0%), social workers (26.8%) and parents/guardians (15.4%)<sup>60</sup>.

<sup>i</sup> Symptoms of internet addiction included ‘feeling preoccupied with the internet’, ‘feeling the need to use the internet for an increasing amount of time’, ‘unsuccessful efforts to control internet use’, ‘feeling restless, moody, depressed or irritable when attempting to cut down internet use’, ‘staying online for longer than intended’, ‘risking the loss of a significant relationship, job, educational or career opportunity because of internet use’, ‘lying to family members, a therapist or others to conceal the extent of involvement with the internet’, and ‘using the internet as a way of escaping from a problem’.



### ***1.10.5 Internet addiction***

Internet addiction has been found to be associated with attention deficit hyperactivity disorder<sup>61</sup>, depressive symptoms, depressive disorder<sup>62</sup>, anxiety disorder<sup>63</sup>, low self-esteem<sup>64</sup>, impulsivity<sup>65</sup>, social anxiety<sup>66</sup>, shyness<sup>67</sup> and suicidality<sup>68, 69</sup>.

With the increasing use of internet in recent years, there has been growing awareness about the potential effects of its excessive use. In a local study conducted in 2004-2005, adolescents aged 15-21 years were interviewed. It was found that those with five or more symptoms of internet addiction<sup>1</sup> were 6.7%, with 8.4% for males and 4.5% for females<sup>70</sup>.

### ***1.10.6 Sleep***

Growth hormone is secreted during the night during specific sleep stages. Deep, non-REM sleep that occurs early in the night seems especially important for its secretion. If this is disrupted, growth may not occur normally. Any sleep disorder that disrupts deep sleep may decrease growth hormone secretion. Moreover, simply not getting enough sleep could have the same effects.

A local study conducted among Chinese adolescents aged 12-19 years in 2003/04 found that the average school-night bedtime of the study population was at 11p.m. to 12 midnight, and total sleep time was 7.3 hours. During weekends, the average bedtime and rise time was delayed by 64 minutes and 195 minutes, respectively. Sleep disturbances occurring in 3 or more days per week in the preceding 3 months, included difficulty in falling asleep, waking up during the night and waking up too early in the morning, and were reported by 5.6%, 7.2% and 10.4% of the children studied, respectively. About 19% of these children reported to have one or more of these three symptoms<sup>71</sup>.

### ***1.10.7 Bullying and cyberbullying***

## 1.11 Common chronic health conditions

According to the Child Health Survey 2005/06, the five most frequently reported chronic health conditions in children aged 14 years and below were visual problems (27.3%), allergic rhinitis (24.5%), eczema (12.4%), food allergy (5.1%) and asthma (4.1%). The prevalence of visual problems, allergic rhinitis, and asthma generally increased with age, while that of eczema and food allergy generally decreased with age<sup>5a</sup>. The prevalence of allergic rhinitis, food allergy and asthma was higher in males than females. However, the prevalence of visual problems and eczema was higher in females than males.

A study designed to measure the prevalence of asthma and atopic disorders in preschool children in Hong Kong found that 21.7% of the children had experienced one or more atopic symptoms (wheeze, rhinoconjunctivitis or flexural eczema) in the past year. Early environmental exposure factors were important risk factors for subsequent development of asthma symptoms during preschool years<sup>74</sup>.

## 1.12 Family issues

There had been increasing cross-boundary marriages before 2006 and dropped thereafter in the past two decades. The number of cross-boundary marriages increased from 22 610 in 1991 to 34 628 in 2006 and decreased to 22 926 in 2016. For those marriages registered in Hong Kong, the number increased from 680 in 1991 to 17 367 in 2016. Most of the marriages involved male HK residents married to female residents in the Mainland, with increasing trend from 21 220 in 1991 to 28 145 in 2006 but then decreasing to 15 300 in 2016. On the other hand, for those marriages involving female HK residents married to male residents in the Mainland increased from 1 390 in 1991 to 7 626 in 2016<sup>75a</sup>.

The total number of divorces increased rapidly during 1991 to 2013 from 6 295 to 22 271 and dropped to 17 196 in 2016<sup>75a</sup>. The number of female single parents decreased slightly from 60 675 in 2006 to 56 545 in 2016. The number of male single parents increased slightly from 15 748 in 2006 to 16 883 in 2016<sup>75b</sup>.

The number of newly reported child abuse increased from 877 in 2011 to 947 in 2017. The majority of child abuses are physical abuse and sexual abuse. The number of newly reported spouse/cohabitant battering was 3174 in 2011 and 3128 in 2017. The majority of abuse is physical abuse<sup>76</sup>.

According to the Hong Kong Poverty Situation Report, the pre-intervention and post-recurrent cash intervention poverty rate of population aged below 18 was 23.0% and 17.2% respectively in 2016. The post-recurrent cash intervention poverty rate of households with children was 15.3% in 2016.<sup>75c</sup>