



# HEALTH INEQUALITIES IN HONG KONG: A LIFE COURSE APPROACH

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# FOREWORD

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Hong Kong has a remarkable level of good health that has developed quickly. This state of good health most likely is the result of determinants acting through the life course. Rapid improvement is seen, most notably, in infant mortality. As recently as 1951, infant mortality in Hong Kong was just over 90 per 1000 live births. By contrast in the UK at that time, infant mortality was 30 – one third the Hong Kong level. By 2021, infant mortality in Hong Kong was 1.7/1000, about the lowest in the world. In the UK, it was 3.5. Huge improvements both, but the Hong Kong level is now half that in the UK. This improvement can be attributed to a combination of improved living conditions and provision of high quality medical care.

Within this remarkable level of health achievement lurk inequalities in health. In a variety of ways inequalities in living conditions in Hong Kong, as in other countries, lead to health inequalities. If we shift our gaze from survival of children to quality of early child development, we see inequalities. Children from backgrounds of higher socioeconomic advantage score better on the variety of measures that make up readiness for school, than do children from less privileged backgrounds. International evidence shows that readiness for school predicts school performance, which in turn correlates with adult socioeconomic position. The implication is clear: inequalities in health in adulthood have their origin in early childhood.

Consistent with what has just been described, in Hong Kong, as in other countries studied, there are inequalities in standard scores of educational attainment. Overall, Hong Kong has high scores compared with other OECD (rich) countries and relatively narrow inequalities. But there is further to go, in achieving higher educational standards for all.

This year's report pays special attention to mental health of adolescents and young adults. Amid the overall good health and long life expectancy of Hong Kong, mental health of young people is of particular concern. The pandemic was a challenge. Inequalities in mental wellbeing arose through learning difficulties and loneliness. There are now government schemes to address these issues of mental health. We await evaluations.

Continuing into working age, the report points to the long hours worked and relatively high levels of burnout in Hong Kong. Striking the balance between a culture of hard work that contributes to prosperity, and overwork that leads to ill health is of great importance.

At older ages, too, there are clear inequalities in health. Those from lower socioeconomic backgrounds have more chronic disease, have less of their life free from impairment, and have higher rates of depression, than those in more fortunate circumstances.

The focus of the CUHK Institute of Health Equity, working in partnership with UCL Institute of Health Equity, is the social determinants of health that lead to avoidable health inequalities – health inequities. Bringing together the evidence on this vital topic is the purpose of this series of reports. Our mission is to provide the evidence for action to achieve better health for all the people of Hong Kong, with special attention to greater health equity.



**Prof. Sir Michael Marmot**  
Co-Director, CUHK Institute of Health Equity  
Director, UCL Institute of Health Equity



**Prof. Jean Woo**  
Co-Director, CUHK Institute of Health Equity



**Prof. Eng-Kiong Yeoh**  
Co-Director, CUHK Institute of Health Equity

# ACKNOWLEDGEMENTS

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## REPORT WRITING TEAM:

**UCL IHE:** Professor Sir Michael Marmot, Director; Antia Castedo, Senior Researcher; Dr Michael Alexander, Senior Research Fellow; Dr Jessica Allen, Deputy Director; Professor Peter Goldblatt, Senior Advisor.

**CUHK IHE:** Prof. Jean Woo, Co-Director; Prof. Eng-Kiong Yeoh, Co-Director; Prof. Hung Wong, Associate Director; Prof. Roger Chung, Associate Director; Prof. Dexia Kong, Assistant Professor; Prof. Eric Lai, Research Assistant Professor; Dr. Gary Chung, Postdoctoral Fellow; Mr. Yat-Hang Chan, Research Assistant; Mr. Richard Lee, Functional Manager.

Peter Goldblatt, Owen Callaghan, Antia Castedo and Michael Alexander coordinated production and analysis of tables and charts.

**Suggested citation:** Michael Marmot, Antia Castedo, Michael Alexander, Jessica Allen, Peter Goldblatt, Jean Woo, Eng-Kiong Yeoh, Hung Wong, Roger Chung, Dexia Kong, Eric Lai, Gary Chung, Yat-Hang Chan, Richard Lee (2022). Health Inequalities in Hong Kong: A Life Course Approach. London: Institute of Health Equity.

**ABOUT THE UCL INSTITUTE OF HEALTH EQUITY** The UCL Institute of Health Equity (UCL IHE) ([www.instituteofhealthequity.org](http://www.instituteofhealthequity.org)) was established in 2011 to develop and support approaches to health equity and build on work that has assessed, measured and implemented approaches to tackle inequalities in health and is led by Professor Sir Michael Marmot. The Institute works to build the evidence base and advise and support implementation of approaches to health inequalities in the UK and globally.

**ABOUT THE CUHK INSTITUTE OF HEALTH EQUITY** The Chinese University of Hong Kong Institute of Health Equity (CUHK IHE) ([www.ihe.cuhk.edu.hk](http://www.ihe.cuhk.edu.hk)) was established in 2020 as a leading institution in promoting health equity studies in the Asian region. The Institute endeavours to examine and understand issues of health equity in Hong Kong, inform government policies and intervention programmes to improve health equity in Hong Kong, and establish a network for the Asian region.

**THE UCL IHE AND CUHK IHE COLLABORATION** The UCL Institute of Health Equity is a collaborative partner to the CUHK Institute of Health Equity. The two institutes have a continuing collaboration to develop research and produce a series of reports to review health equity and the social determinants in Hong Kong and to build a network on related issues across Asia.

ISBN 978-988-75579-1-3



# CHAPTER 1

## INTRODUCTION

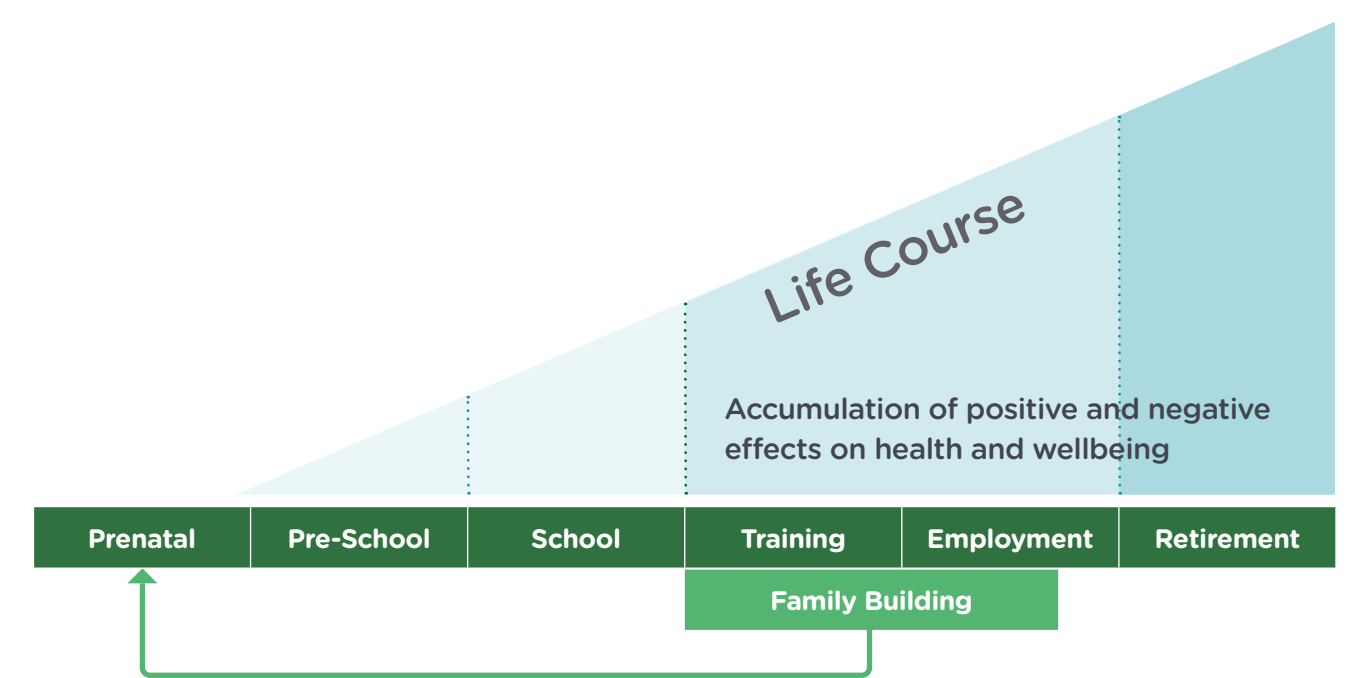
This report takes a life course approach to examining inequalities in the drivers of health – known as the social determinants of health – in Hong Kong. The second report from the UCL and CUHK Institutes of Health Equity, it builds on the first, which examined inequalities in health and the social determinants of health and assessed the impacts of the COVID-19 pandemic on health and on the social determinants (1). This report begins with inequalities in maternity and during the early years, then continues into school age and working age, and finally into older age. There is a particular focus on mental health.

Disadvantage can start before birth and accumulate throughout life, resulting in increased inequalities and worse outcomes, including in health and in key social determinants of health such as education, income and housing. Early influences – genetic, developmental, familial, social, and educational – cast long shadows into the future, but we continue to develop throughout our lives as we progress through its stages, from pre-school, through schooling, working life and family life, to retirement and into old age. There are opportunities to disrupt the trajectories of inequality and health damage at each stage of life. This accumulation of advantage and disadvantage is illustrated in Figure 1.1.

This report proposes action to reduce inequalities throughout life, beginning with the most effective – interventions in the early years. Inequalities, and associated health damage, do not only affect the current generation: they are also passed on through generations – what we call the intergenerational transmission of

inequity. It is particularly important to reduce the transmission to future generations during the years when many people are building their families, and good quality work, sufficient income and good levels of education are particularly important for disrupting the transmission of inequity.

**Figure 1.1 Stages of the life course and the accumulation of effects**



Source: Institute of Health Equity (2010) (2).

Effective action to reduce inequalities needs to start as early as possible, ideally at conception and in the following 1,000 days, to have the greatest impact. It is at this stage of life that interventions are most effective and offer the greatest return on investment. At the same time, interventions at every stage of life must continue in order to protect and improve the health and wellbeing of current and future generations, including the oldest.

This also protects subsequent generations from being recipients of inherited disadvantage.

Reducing health inequalities requires action on the six policy objectives outlined in the first Marmot review, *Fair Society, Healthy Lives* (2) and in the follow-up report, *Health Equity in England: The Marmot Review 10 Years On* (3).

The six Marmot principles are:

- 1 → Give every child the best start in life
- 2 → Enable all children, young people, and adults to maximise their capabilities and have control over their lives
- 3 → Create fair employment and good work for all
- 4 → Ensure a healthy standard of living for all
- 5 → Create and develop healthy and sustainable places and communities
- 6 → Strengthen the role and impact of ill health prevention

To this list we have added another two principles to reflect increasing recognition of the health equity impacts of these domains:

- 7 → Tackle racism and discrimination, and their outcomes
- 8 → Pursue environmental sustainability and health equity together

## THE SOCIAL DETERMINANTS OF HEALTH IN HONG KONG

In the first report in this series, we described inequalities in health in Hong Kong (1). While Hong Kong has among the highest life expectancy in the world, there are widespread inequalities in chronic diseases, mental health, subjective health status, health behaviour and healthcare access, resulting in a social gradient of health. These are related to inequalities in education, income, poverty, living conditions and ethnicity, as well as inequalities in access to health care and other services.

We also explained that the COVID-19 outbreak exposed and exacerbated the pre-existing inequalities in Hong Kong, widening inequalities related to the

disproportionate risk of COVID-19 infection and mortality in more deprived communities and to the differential social and economic impacts of COVID-19 containment measures across the social ladder, including on education and income.

Among our recommendations was that the government works with other sectors, including academia, social care and healthcare, professional bodies, businesses, charities and voluntary organisations, in developing policies across the board to reduce inequalities in social and economic conditions and thereby reduce inequalities in health (1).

# CHAPTER 2

## MATERNAL AND CHILD HEALTH

When *Fair Society, Healthy Lives*, the first Marmot Review for England, was published in 2010, it identified giving every child the best start in life as a priority recommendation, noting that the foundations for virtually every aspect of human development – physical, intellectual, social and emotional – are laid in early childhood (2). This is as relevant now as it was then, and as relevant for Hong Kong as it was (and is) for England. Later interventions can ameliorate inequalities, but their effectiveness also relies on the presence of these strong foundations. Early development influences school-readiness and educational attainment, which goes on to influence job prospects and income, and opportunities for full participation in society, for retirement and for secure older age. Every part of that chain also affects health.



## BIRTH

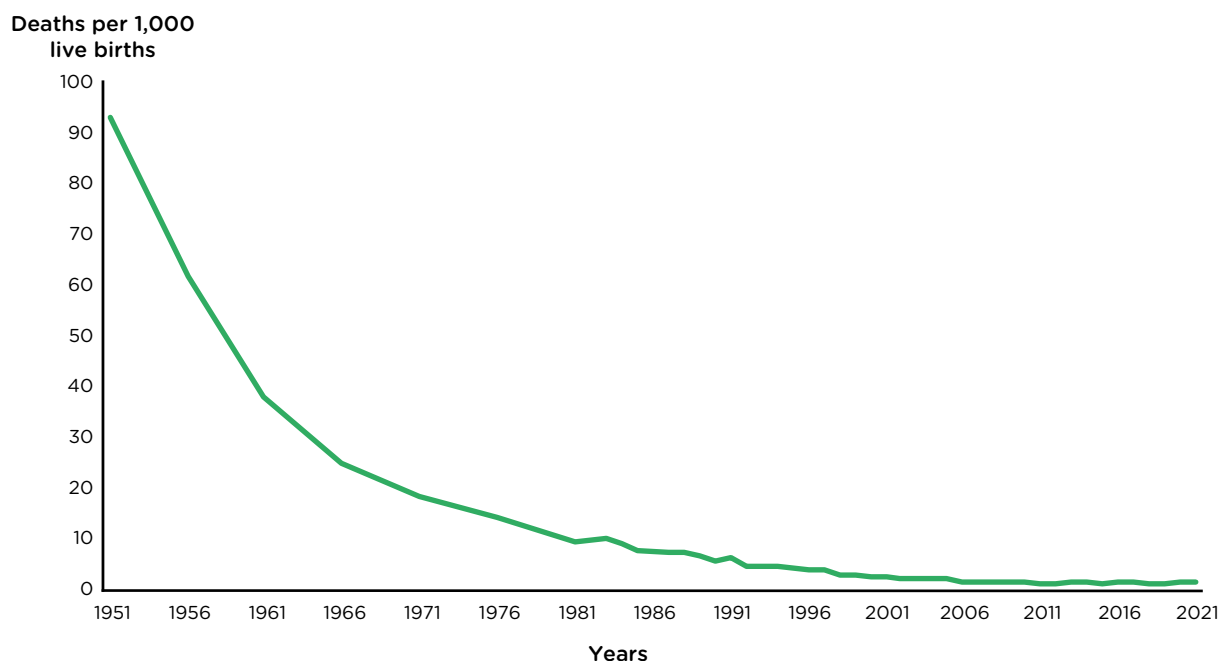
Development begins in utero, where maternal health and wellbeing, including stress, diet, and drug, alcohol and tobacco use during pregnancy, can affect the environment of the developing foetus. Evidence suggests that this environment can affect cognitive development in the growing child as well as the propensity to develop certain diseases in later life, including hypertension, diabetes, coronary heart disease and stroke (3) (4) (5). This underscores the importance of good maternal care, alongside efforts to improve the health and wellbeing of the adult population to provide children with the best possible start in life.

The Hong Kong government provides a range of services for maternal and child health. The Family Health Service and the Hospital Authority jointly provide a comprehensive antenatal shared-care programme, throughout pregnancy and delivery, free to all Hong Kong residents, delivered through hospitals and Maternal and Child Health Centres (MCHCs) (6).

The Family Health Service also provides care for newborn babies and young children (7). The service was started in the 1930s and has expanded over the decades to include breastfeeding and nutritional support, a vaccination programme, neonatal and childhood screening programmes, health education, counselling and health and growth monitoring.

Infant mortality is a crude measure of the quality of antenatal and maternal care, as well as the health of the mother, related to their social and economic position. Hong Kong's infant mortality rate (IMR) has improved significantly over the past few decades and is now among the lowest in the world. As shown in Figure 2.1, IMR decreased from 91.8 deaths per 1,000 live births in 1951 to 1.7 in 2021 (8). At 1.9 in 2020, it was similar to that in developed economies such as Japan (1.8) and Singapore (1.8) in that year and performed well on this measure compared to Sweden (2.4), the UK (3.6) and the US (5.4) (9) (10).

**Figure 2.1 Infant mortality rate, Hong Kong, 1951–2021**

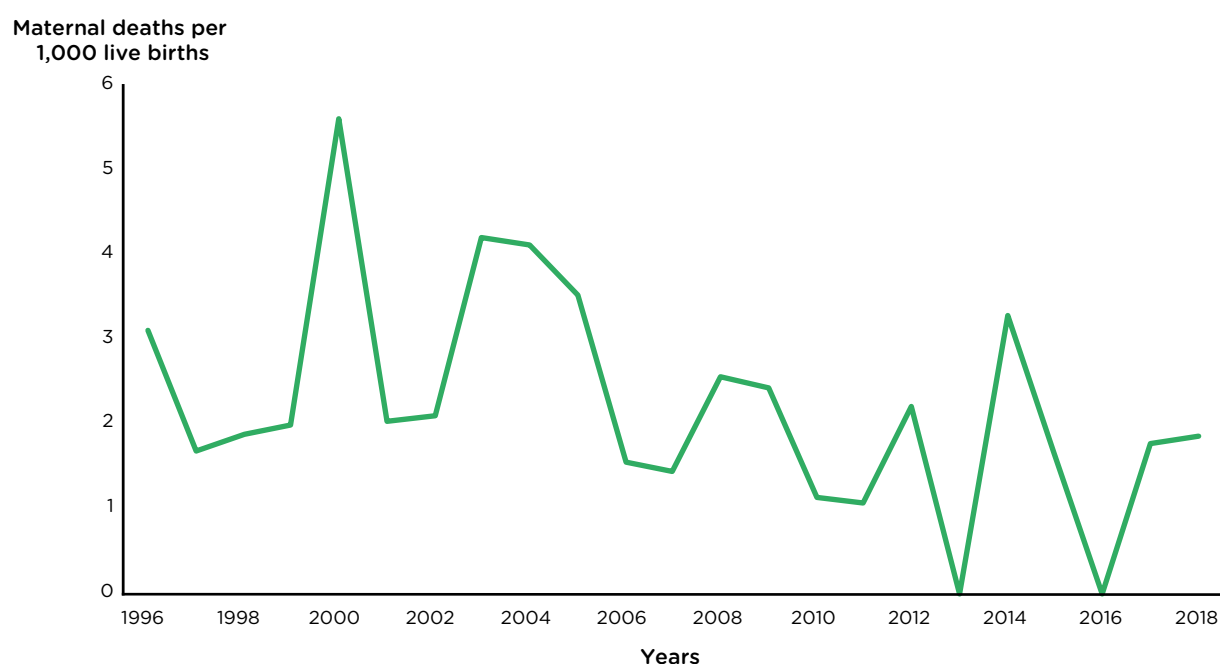


**Source:** Census and Statistics Department, Government of the Hong Kong SAR (8) (11).

**Note:** Data for 2021 are provisional.

Maternal mortality in Hong Kong is also amongst the lowest in the world (12). While the volatility in Figure 2.2 reflects the rarity of maternal death, some reduction over time is apparent.

**Figure 2.2 Maternal mortality rate, maternal deaths per 100,000 live births, Hong Kong, 1996–2018**



*Source: Social Indicators of Hong Kong (13).*

Low birth weight can be an indicator of poor foetal nutrition or other health problems during pregnancy. Large studies from Hong Kong have found an association between lower parental socioeconomic background and low birth weight (14) (15). A study that reproduced this association showed that after controlling for gestational age and age of the mother, parental education no longer predicted low birth weight (16). A reasonable interpretation is that gestational age and age of the mother are steps in the causal link between low socioeconomic background and low birth weight.

In another study, higher maternal education was found to be related to faster growth during infancy (17). Higher grandparental education, although not related to infant growth, is related to a higher growth rate in childhood, suggesting intergenerational socioeconomic advantage has a long-lasting impact.

The World Health Organization (WHO) advocates exclusive breastfeeding till at least six months of age to achieve optimal growth and health. A study with 2,761 new mothers in Hong Kong conducted in 2011 showed

that those with higher education were more likely to initiate breastfeeding than those with lower education (18). This may be related to higher health literacy and access to advice, but also to varying employment and childcare patterns and maternal health. Another study conducted between 2006 and 2007 with 1,417 new mothers indicated a more complex pattern, at least regarding breastfeeding duration, with mothers with primary education and a postgraduate degree breastfeeding for longer periods than those with mid-education levels (19). However, this association between lower education/income level and longer breastfeeding duration disappeared in the adjusted analysis, which showed that returning to work post-partum is a relevant factor for early weaning, independently of any other variables. Returning to work is frequently mentioned by mothers in Hong Kong as a reason for early weaning, perhaps not surprisingly given that statutory maternity leave is 14 weeks, and many people work long hours (20) (21). Other factors, such as younger maternal age, living in Hong Kong for five or more years or the husband's preference for infant formula were also associated with early weaning (19).



## EARLY DEVELOPMENT

In all societies, there is unequal distribution of income and resources needed to support the healthy development of children, and global evidence strongly supports a link between early experience of deprivation and worse health outcomes in later life (2). Children from families that are poor are more likely to experience health problems, such as chronic disease, poor nutrition and mental health issues (22). Lack of money has a strong impact on development and health, independently of other family characteristics such as parental level of education (23). Because of the foundational role of the early years, and even though children continue to learn and develop afterwards, interventions to reduce inequalities at this stage are the most effective (3).

The quality of experiences in the early years is an important determinant of immediate and longer-term future outcomes, including speech and language development, cognitive development, educational attainment and prospects for work and income. The quality of early years care, before schooling, is therefore critical. There is strong international evidence on the link between low income and lower levels of education and cognitive development in early childhood, such as in early language proficiency. Inequalities in vocabulary and language processing can be seen as early as 18 months between infants from low and high socioeconomic status families in England (24). UK evidence also shows that children of educated or wealthy parents with low cognitive scores in early childhood can

catch up later, whereas the children of worse-off parents are much less likely to do so (2).

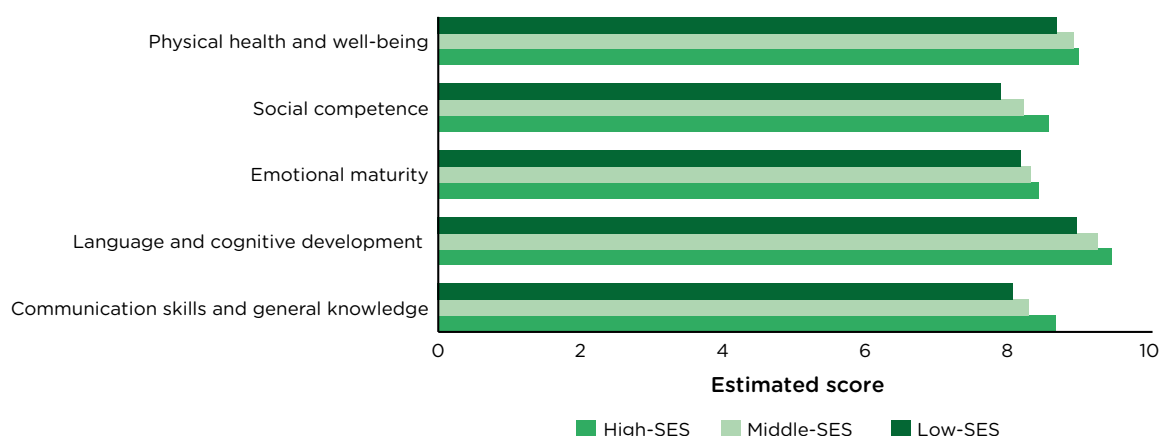
Parents spending time with their children is an important part of encouraging healthy development. Hong Kong offers relatively short maternity leave even taking into account that in December 2020, paid maternity leave entitlement was extended from 10 to 14 weeks. The average for OECD countries is 18 weeks. In the UK, mothers can take up to nine months of paid leave. However, maternity leave payment rates in the UK are low, at less than one-third of the mother's previous income (25). In Sweden parental leave is eight months per parent (16 months in total) paid at approximately 80 percent of income for the first 56 weeks, with an income ceiling. This can be transferred between the parents, except for 90 days, which are exclusive to each parent. Paternity leave is five days in Hong Kong, with four-fifths of wages borne by employers. This is also low by international standards although figures vary greatly. Some countries, such as the United States, offer no paid leave for fathers, while Switzerland offers two weeks (26) (25).

The number of recent studies on socioeconomic inequalities in early child development in Hong Kong is low compared with other developed countries. However, existing research provides evidence of a socioeconomic gradient, which should be investigated further in studies with bigger samples.

As can be seen in Figure 2.3, a study from 2016 using a random sample of 556 children aged 5 to 6 years old found that those from families with higher SES (measured based on education, income and occupation of the parents) were rated more ready for school than those with a lower SES, and every step up the socioeconomic ladder improved the prospects. There were significant differences in parental expectation, parental involvement, child engagement, and academic achievement between the low-SES and middle-SES groups. Children's readiness for school was assessed through teacher ratings of five developmental domains:

physical health and wellbeing; social competence; emotional maturity; language and cognitive development; and communication skills and general knowledge. In all domains assessed, children from low-SES families had worse results, except for emotional maturity, for which the difference was not significant (27). Similar associations have been found in other countries, such as England, where children eligible for free school meals (indicating low socioeconomic position) were considerably less likely to reach a good level of development than their peers of the same gender at the end of Reception year (3).

**Figure 2.3 Association between SES and school readiness in children aged 5–6 years, Early Development Instrument scores in five developmental domains, Hong Kong, 2016**



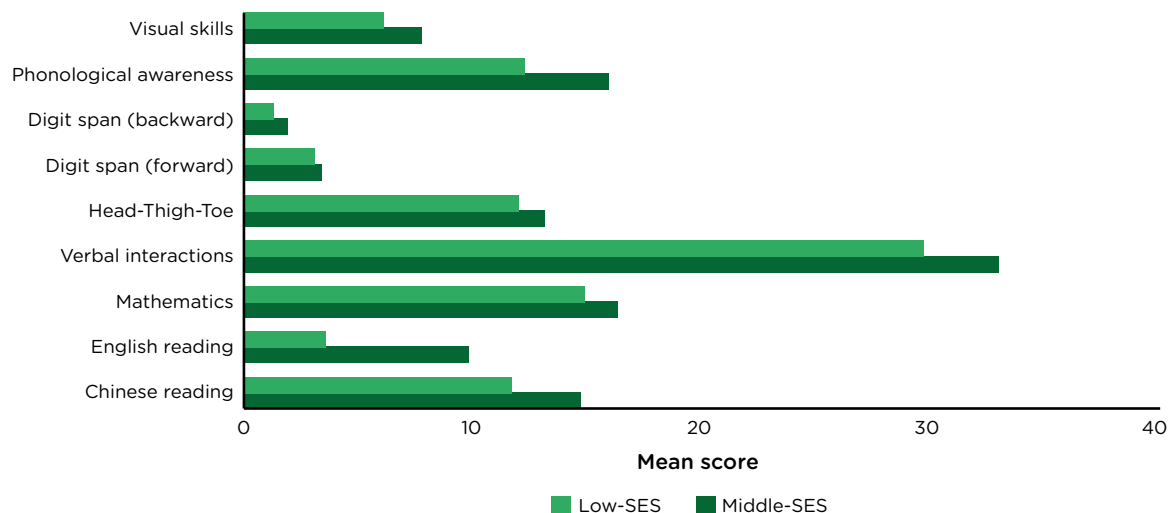
Source: Ip et al. (2016) (27).

Note: The Early Development Instrument (EDI) assesses children's readiness for school through teacher ratings of five developmental domains: physical health and wellbeing, social competence, emotional maturity, language and cognitive development, and communication skills and general knowledge.

Another study in Hong Kong with 199 children in 2016 in second year of kindergarten (K2) from nine kindergartens found inequalities in early academic achievement in children as young as 3.5 years old.

Children with disadvantaged parents performed worse than those from middle-SES families in their level of cognitive-linguistic skills, verbal interactions, and reading and mathematics, as shown in Figure 2.4 (28).

**Figure 2.4 Mean scores in a variety of measures of children in second year kindergarten from low- and middle- SES groups, Hong Kong, 2017**



Source: Chung et al. (2017) (28).

## BOX 1: EARLY YEARS PROVISION IN HONG KONG

Hong Kong does not have children's centres that provide integrated children's services akin to those provided in the 2010s by the Sure Start programme in England. All kindergartens in Hong Kong are privately run, and they can be non-profit-making or private and independent. Most of them operate on a half-day basis (29). The government subsidises pre-school education for 3- to 6-year-olds attending not-for-profit kindergartens. Between 2007 and 2017, this was run through an annual non-means-tested flat rate voucher scheme for parents of kindergarten-aged children (the pre-primary education voucher scheme, or PEVS), which covered part of the fees only for those attending not-for-profit institutions. The scheme also placed caps on fees, so expensive kindergartens were not eligible (27). Additionally, low-income families could apply for support through the means-tested Kindergarten and Child Care Centre Fee Remission Scheme (KCFRS).

The effect that the PEVS had on socioeconomic inequalities in education is unclear, although as explained below, inequalities in attendance were observed during this period. While 85% of children benefited from it, differences in tuition fees likely lead to inequalities in early childhood development, given that children from poor families were still unable to attend more expensive kindergartens. On the other hand, these inequalities could have been ameliorated by ensuring that kindergartens with a majority of poor students could provide quality education by improving schools' facilities and teachers' professional development (27).

In 2016 the government changed its policy, substituting PEVS for the Free Quality Kindergarten Education Scheme, a basic subsidy for kindergartens to offer three-year, good quality, half-day education to all eligible children aged 3–6 (30). Official estimates indicate that 90 percent of half-day, not-for-profit kindergartens are now free for 15 hours a week (31). There is additional support for extended hours, but only for families who qualify to receive government financial assistance. According to the government, in 2022 virtually all children between 3- and 6-years old attend education, even though it is not compulsory (32). However, privately-run, for-profit kindergartens are not eligible for subsidy, and they charge higher fees, attracting more well-off families. About 86 percent of kindergartens were classified as not-for-profit in 2016, with 16 percent being private, independent (33).

Some international research has praised the change of policy from PEVS to the kindergarten education scheme for making education for 3- to 6-year-olds universally available by increasing investment, offering additional financial support for disadvantaged families and giving additional learning support for children from ethnic minority backgrounds and with special needs (33). However, the research has also identified equity gaps, such as the likely existence of advantages for children from better-off families who can afford to attend the most sought-after kindergartens. It is also likely that these children are assisted in the application process, as the more privileged are prepared through private classes in languages and the arts.

Data from the OECD's Programme for International Student Assessment (PISA) 2015 (before the introduction of the Free Quality Kindergarten Education Scheme) indicated that Hong Kong had some of the highest rates of attendance for more than three years of early childhood education and care (ECEC) programmes among the countries and economies participating in PISA 2015, although important inequalities existed. More than half of those children who either did not attend ECEC programmes or only did so from 6 years of age belonged to the lowest SES quartile. This can create important inequalities in children's development, since attending high quality ECEC has shown to bring important cognitive, emotional and social benefits to

children and its effects are particularly important for children from deprived families (34).

The influence of early childhood education and care can go well beyond school-readiness. PISA results show that students who attended ECEC programmes tend to have higher academic scores at age 15. However, these differences almost disappear when socioeconomic status is considered, indicating that in most countries ECEC institutions are not mitigating inequalities among children. The situation varies greatly between countries, and other factors in addition to attending ECEC should be considered, such as the quality of the education received, the centre's features and teachers' experiences (34).



# CHAPTER 3

## SCHOOL AGE

Education can contribute to reducing social, economic and health inequalities by providing children and young people with opportunities, resources and skills that enable them to improve their socioeconomic position and support the conditions for good health. However, as we have seen, inequalities exist even before children start school, and these persist during the years of education and lead to inequalities in other social determinants and in health. Interventions with schools, families and communities are needed to address these inequalities and enable continued attainment and cognitive, emotional and social development of all children and young people, to prepare them to enter the adult world without disadvantage and to contribute to good health.

## BOX 2: EDUCATION PROVISION IN HONG KONG

The mainstream formal education system in Hong Kong consists of six years of primary school followed by three years of lower secondary and three years of upper secondary school. The Hong Kong Diploma of Secondary Education Examination is taken at the end of secondary education.

A compulsory education policy was implemented in 1971, providing six years of free education for school-age children, who were expected to enrol in primary school at the age of 6. In 1978 the compulsory education scheme was extended to nine years. Since 2008, upper secondary education has also been free for public school students (35). Upon completion of secondary education, there are four possible educational routes to secondary school graduates: vocational education and training; sub-degree, diploma and certificate programmes; degree/top-up degree programmes; or study outside Hong Kong (36).

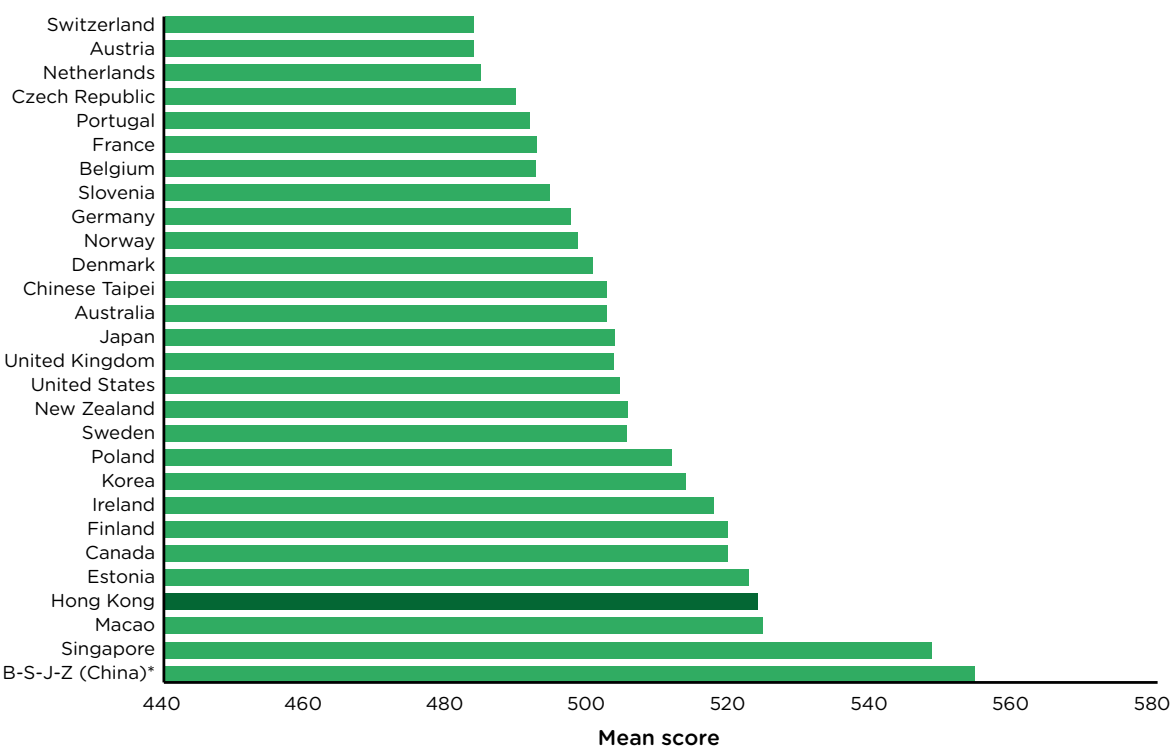


# 3A. EDUCATIONAL ATTAINMENT IN HONG KONG

## PRIMARY AND SECONDARY EDUCATION

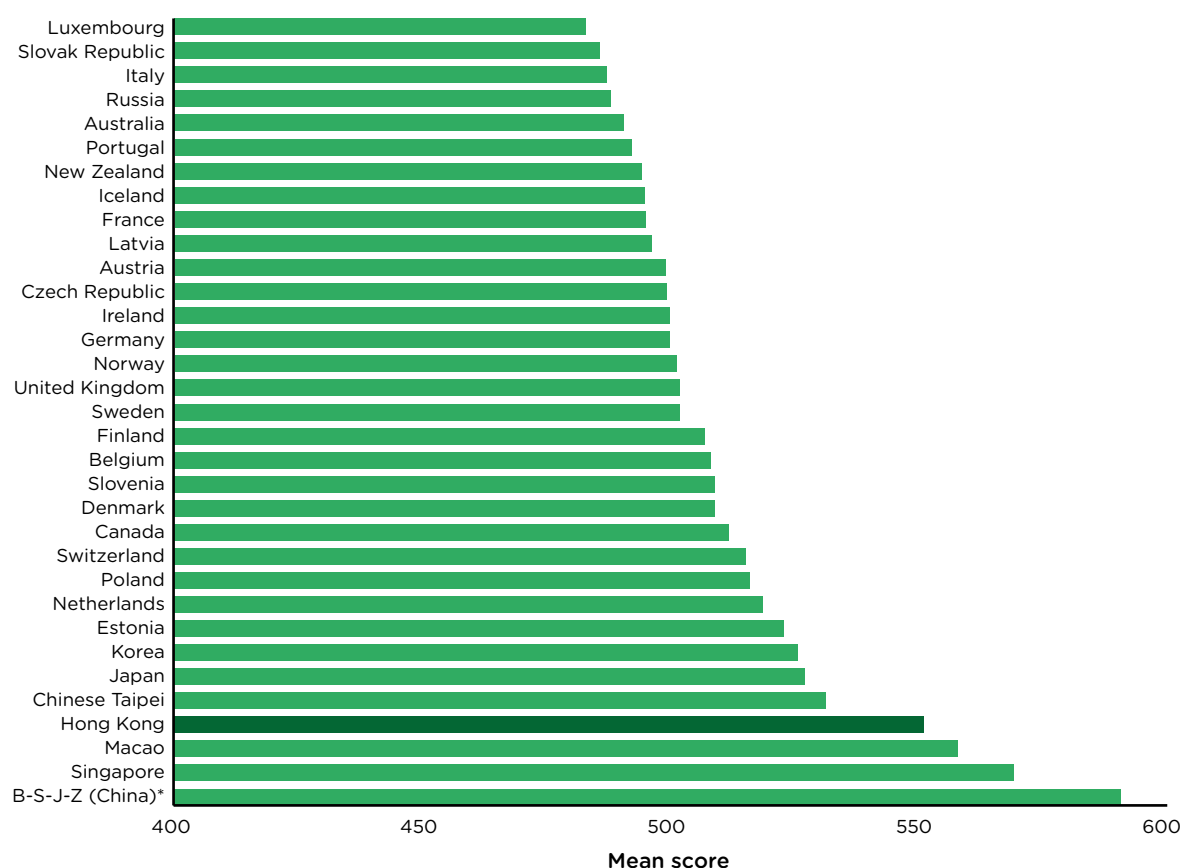
As shown in the Figures 3.1 and 3.2, Hong Kong students perform well on PISA, which evaluates the educational achievement of 15-year-olds and can be used for international comparisons. On the latest results, Hong Kong ranked fourth in reading and mathematics among all the participant countries and economies (37). However, there are inequalities in attainment between low- and high-SES students, which are covered in section 3B below.

Figure 3.1 Mean score in reading, countries and economies among the top performers in PISA, 2018



Source: OECD (2018) (37).  
Note: B-S-J-Z China refers to four provinces/municipalities of China: Beijing, Shanghai, Jiangsu, and Zhejiang. Country designations are those used in PISA. Data from Hong Kong, United States, Netherlands and Portugal did not meet the PISA technical standards but were accepted as largely comparable.

**Figure 3.2 Mean score in mathematics, countries and economies among the top performers in PISA, 2018**



Source: OECD (2018) (37).

Note: B-S-J-Z China refers to four provinces/municipalities of China: Beijing, Shanghai, Jiangsu, and Zhejiang. Country designations are those used in PISA. Data from Hong Kong, Netherlands and Portugal did not meet the PISA technical standards but were accepted as largely comparable.

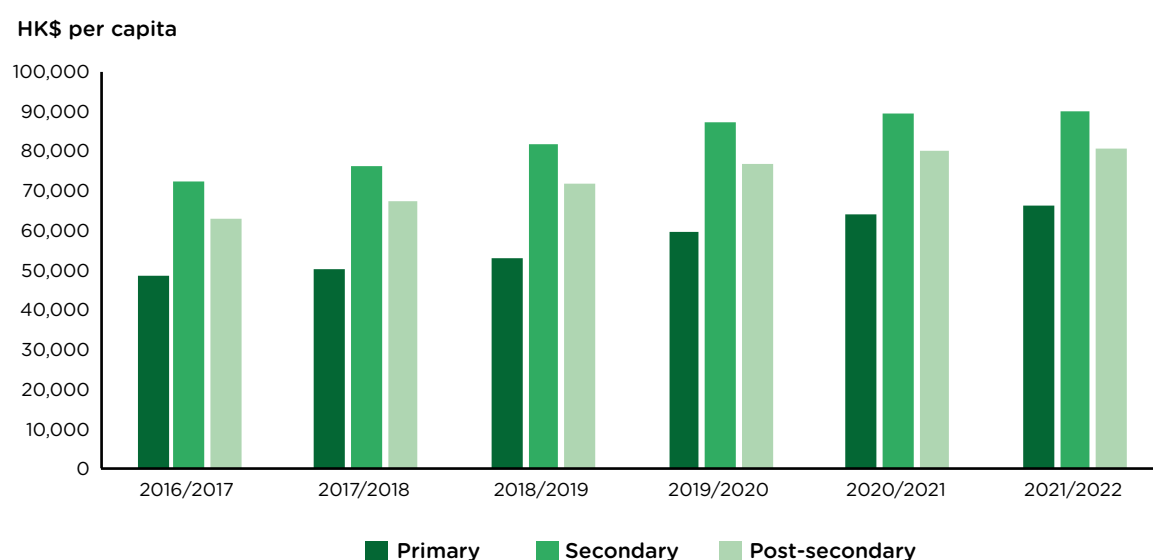
## EXPENDITURE ON EDUCATION

Before the start of the COVID-19 pandemic, the government was substantially increasing total expenditure on education, which rose from HK\$82.4 billion in 2016/2017 to HK\$125.3 billion in 2019/2020 (during which pandemic measures began) – a cash increase of over 50 percent. In the same period, GDP rose by 14 percent – from HK\$2490.6 billion to HK\$2844.8 billion. As a result, education expenditure as a percentage of GDP rose from 3.3 percent to 4.4 percent between these periods. In 2020/2021, the first full academic year during the pandemic, expenditure fell both in absolute terms and as a percentage of GDP, declining to HK\$107 billion (4 percent of the provisional estimate of GDP). The fall was greater as a percentage of total government expenditure (from 20.6 percent to 13.1 percent in just one year), possibly reflecting the need to increase other government spending as part of the pandemic response. Total expenditure decreased again slightly in 2021/22 to remain below 2018/19 levels (the last full academic year before the pandemic), both in absolute terms, in relation to GDP and as part of total government expenditure, according to the government's

own revised estimates (38). In contrast, according to data from 26 countries analysed by the World Bank, the Global Education Monitoring (GEM) Report, and the UNESCO Institute of Statistics (UIS) many high- and upper-middle-income countries have reversed this downward trend in 2022, reinstating the relative importance of education in government budgets (39).

The pattern of recurrent spend is slightly different from that for total spend on education. Total recurrent expenditure increased from HK\$75.5 billion in 2016/2017 to HK\$92.4 billion in 2019/2020 – a cash increase of only 22 percent compared to around 50 percent for total spend. This was followed by a further 5 percent increase in recurrent spend between 2019/20 and 2020/21 to HK\$97.3 billion, while total spend decreased by 15 percent between those two years. As a result, the change in recurrent spend between 2016/17 and 2020/21 (29 percent) was similar to that for total spend (30 percent). There was no further cash increase in either figure between 2020/21 and 2021/22.

**Figure 3.3 Recurrent government expenditure per student by education level, Hong Kong, 2016/17–2021/22**



*Source:* Hong Kong Education Bureau, Government of the Hong Kong SAR (38).

*Note:* Figures for 2021/22 enrolment in secondary education used to make this chart are provisional. Recurrent expenditure for 2021/22 is a revised estimate.

Over the six-year period (2016/17–2021/22), there was a reduction in pupil/teacher ratios in local schools, from 8.7 to 8 in kindergarten, from 14.2 to 12.5 in primary, and from 11.8 to 11.1 in secondary schools (38).

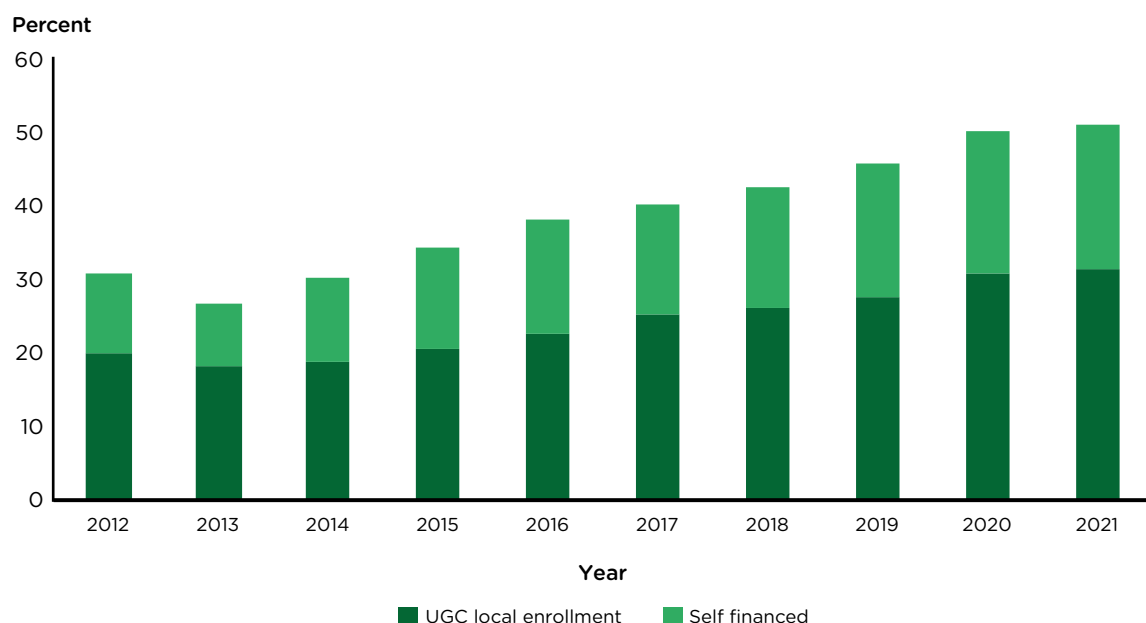


## POST-SECONDARY EDUCATION

Education confers a range of advantages, including increased earning potential and more opportunities for social and cultural engagement. Between 1991 and 2011 the share of young people aged 15–24 with a post-secondary education increased from 13.7 percent to 39.3 percent in Hong Kong. Most of this increase was due to the expansion of sub-degree programmes, which include associate degrees, higher diplomas and professional diplomas, rather than full degrees. These sub-degree programmes made up 88 percent of the total increase in post-secondary education places between 2000/01 and 2009/10, most of them self-financing, while 12 percent of the increase took place in University Grants Committee-funded degree places (40).

Regarding degree-awarding institutions, there are currently 22, of which nine are publicly funded or funded by the University Grants Committee (UGC) (41). Places for local students at local UGC-funded universities are capped by the government and, in past years, some authors have pointed to lower participation rates in tertiary education in Hong Kong compared with OECD countries (42). Students who enrol in degree courses each year in Hong Kong, as a percentage of those taking the Diploma of Secondary Education Examination in that year (which is taken by the majority of students), has been increasing since 2015, as shown in Figure 3.4. It reached 50 percent in 2021, with 31 percent of students enrolling in UGC-funded degrees and 19 percent in self-financed programmes.

**Figure 3.4 Students enrolling in degree-awarding institutions, by type of funding, as a percent of those taking the Diploma of Secondary Education Examination in Hong Kong, 2012–2021**



*Source: Hong Kong Census and Statistics Department; Examinations and Assessment Authority; University Grants Committee, and Council for Self-financing Post-secondary Education.*

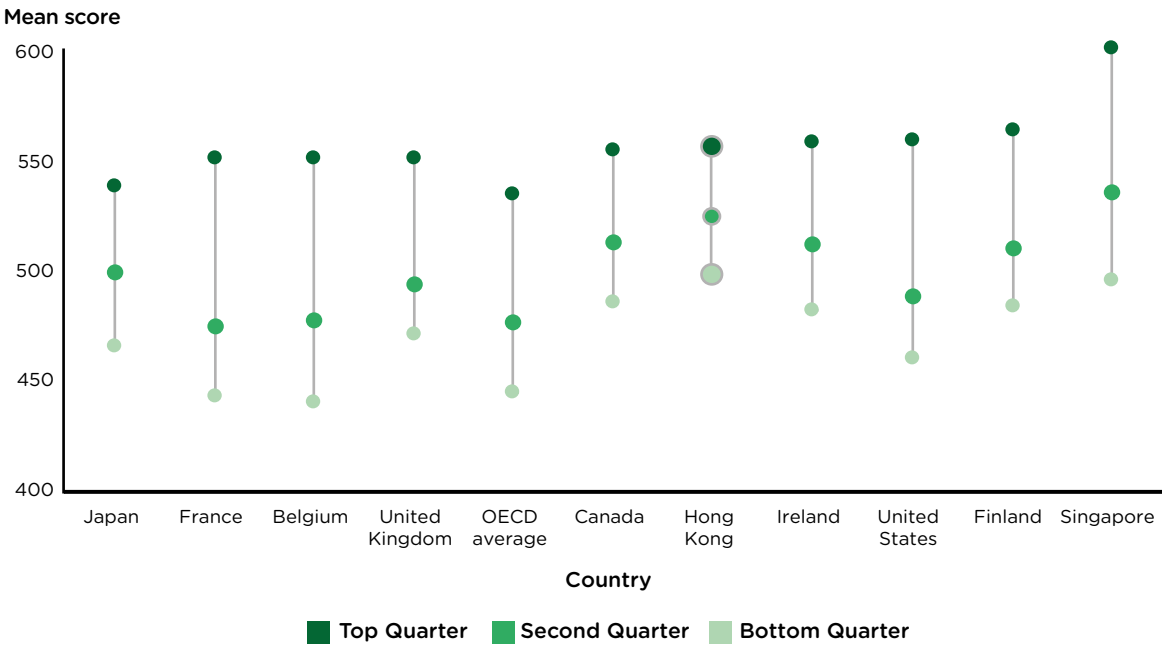
# 3B. INEQUALITIES IN EDUCATIONAL ATTAINMENT

Inequalities established in the early years may persist into older childhood and adolescence. Research has found evidence in Hong Kong that primary school students from lower-SES backgrounds score lower in Chinese, English and mathematics than those from higher-SES backgrounds (43).

The most recent results of the OECD’s PISA show that, in Hong Kong, the students with high ‘economic, social and cultural status’ (or ESCS)<sup>1</sup> outperformed the students with low ESCS by 59 points in reading, indicating clear inequalities in educational attainment (Figure 3.5). However, this is smaller than the average gap in the OECD which is 89 points, suggesting that students with lower ESCS are less disadvantaged in Hong Kong than elsewhere

(37). The student’s economic, social and cultural status was found to explain only a relatively small proportion of the variation in student performance in different subjects in Hong Kong: only 5 percent in maths and 6 percent in science (44). The proportion for the USA, for instance, was 16 percent and 12 percent, respectively, while it was 14 percent for Singapore in both science and maths (44).

Figure 3.5 Mean performance in reading, by socioeconomic status (ESCS), Hong Kong and selected countries, 2018



Source: OECD (2018) (44).  
Note: Data from Hong Kong and United States did not meet the PISA technical standards but were accepted by PISA as largely comparable.

<sup>1</sup>ESCS is a measure used by PISA that includes students’ reports on parental occupation, the highest level of parental education and an index of home possessions related to family wealth, home educational resources, and possessions related to ‘classical’ culture in the family home.

Analysis of the first three PISA cycles (PISA 2000+ to 2006) published in 2010 found that between-school variation was higher in Hong Kong than the OECD average but reduced slightly over the years, with a large share of the variation explained by differences in the social composition and academic intake of schools. This suggested the existence of a certain degree of socioeconomic and academic segregation in Hong Kong (45). In the period 2002–2012, social segregation (based on the student's socioeconomic position) was higher in Hong Kong's schools than in Macau's, Taiwan's and Shanghai's (46). This has been linked to the interplay between two important policy changes that occurred in the 1990s. The first is the introduction in 1991 of Direct Subsidy Scheme (DSS) schools, which are publicly funded but run outside of the public sector, charge fees (as opposed to schools in the traditional public system, which are free) and have autonomy over admissions. The second is a change in policy establishing that only the best performing public schools could teach in English. Since 2011, school segregation has declined (47).

Analysis based on 20-year trends in the International Association for the Evaluation of Educational Achievement's Trends in International Mathematics and Science Study (TIMSS) from 1995 to 2015 showed

that the achievement gaps between high- and low-SES students narrowed prior to 2003 but subsequently increased significantly for both mathematics and science (48). Although lower-SES students from Hong Kong continued to perform strongly compared with students from around the world, their performance declined compared with their peers in Hong Kong. The authors of this study suggested that possible explanations were the decrease in government spending on education as a proportion of GDP prior to 2015 and the increasing income inequality in Hong Kong, indicating that educational inequality was mirroring the increase in income inequality noted in our first report in this series.

One large study with data from PISA 2012 and an extension study in 2013 with 2,741 adolescents from 123 schools in Hong Kong looked at post-secondary educational expectations of Hong Kong adolescents, examining the effects of students' backgrounds, family factors, school factors and personal characteristics. It found that school socioeconomic composition and parental expectations are major factors shaping adolescents' own expectations of pursuing a degree. School-mean SES had a great influence: those from a higher-SES school were more than twice as likely to expect to pursue university education (36).



### 3C. INEQUALITIES IN PHYSICAL HEALTH AND HEALTH BEHAVIOURS OF SCHOOL-AGE CHILDREN

#### NUTRITION AND OBESITY

The Hong Kong government provides free lunch at schools for students from the lowest income families to enable students 'to have more balanced and substantial meals at schools' (49). To be eligible, students must be receiving a full grant under the Student Financial Assistance Schemes, a mean-tested programme that covers needs such as textbooks or travel.

Currently, schools choose lunch providers independently. The government has also launched the Eat Smart at School (ESS) campaign, targeted at primary and secondary schools with the aim of promoting healthy eating habits that can contribute to lowering the problem of childhood obesity and other diseases, and the Start Smart at School (SSS) campaign targeted at kindergartens and childcare centres (50) (51). The ESS campaign includes guidance for students, training for teachers and lunch suppliers, and an accreditation scheme for schools. The SSS campaign provides resources for teachers, children and parents.

The Hong Kong Growth Study (HKGS) of 2005–06 found that children whose mother completed secondary school or below and those who had lower neighbourhood SES

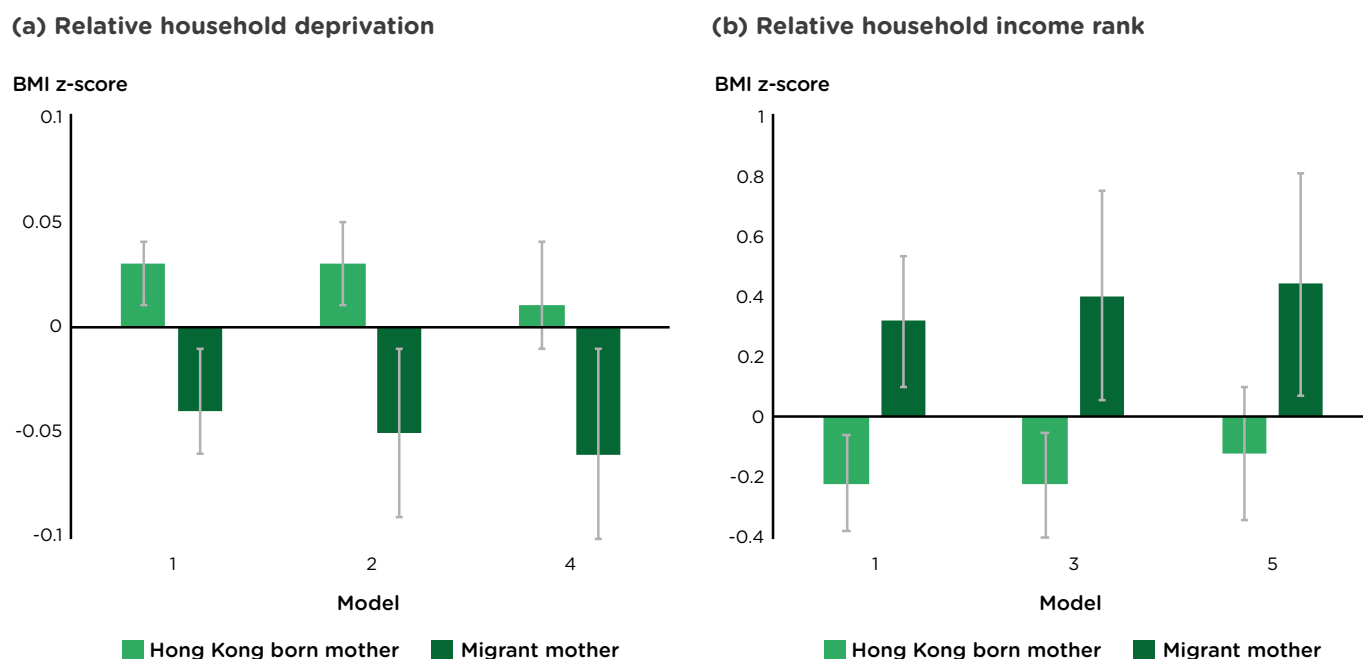
had higher risk of childhood obesity and hypertension (52). However, one study found that this relationship depended on the migrant status of the mother: for children with Hong Kong-born mothers, lower parental education was related to higher body mass index (BMI), whereas it was the opposite for those with mothers born in China (53). Higher parental education was related to lower systolic blood pressure and lower risk of hypertension, which was postulated to be mediated by the child's BMI in adolescence and maternal BMI (52) (54).

A similar pattern was observed for household income. As shown in Figure 3.6, for children with native-born mothers, greater relative household income deprivation was associated with higher BMI z-score (a measure of relative weight adjusted for child age and sex), whereas for those with migrant mothers, greater relative household income deprivation was related to lower BMI z-score (55). This may reflect the global situation, where more socioeconomically disadvantaged children have higher rates of obesity in wealthier countries, but the pattern is reversed in poorer countries.





**Figure 3.6 Unadjusted and adjusted<sup>1</sup> association of (a) relative household deprivation and (b) relative household income rank with age and sex standardised body mass index (BMI) z-scores around age 13 by mother's migrant status, Hong Kong's 'Children of 1997' birth cohort**



Source: Kwok et al. (2018) (55).

Notes: 1 The following models were fitted:

Model 1 - unadjusted association of each of the three income measures (absolute household income, relative household income deprivation, or relative household income rank) with each outcome (adolescent BMI z-score or overweight (including obesity) status)

Model 2 - mutually adjusted associations of absolute household income and relative household income deprivation with each outcome (adolescent BMI z-score or overweight (including obesity) status)

Model 3 - mutually adjusted associations of absolute household income and relative household income rank with each outcome (adolescent BMI z-score or overweight (including obesity) status)

Model 4 - model 2 additionally adjusted for mother's and father's age, father's migrant status, and highest parental education

Model 5 - model 3 additionally adjusted for mother's and father's age, father's migrant status, and highest parental education

## SCREEN ADDICTION, PHYSICAL ACTIVITY, AND SLEEP TIME

Higher levels of parental education have been found to be related to less TV time and video gaming for their children, and inequalities in this respect slightly increased between 1999 and 2008 (56). A recent study conducted in June 2020, when schools reopened in Hong Kong after six months of closures caused by the COVID-19 pandemic, found that children and adolescents from low-SES families, those who received less support and supervision from their parents and those with poor mental health had a higher risk of gaming addiction behaviours compared with their peers who did not fall into these categories, and this was particularly so for primary school students (57). The relationship between socioeconomic background and physical activities, however, is less clear (58) (59).

Regarding sleeping time, higher parental SES was related to shorter sleeping time every night in primary school students, as well as shorter sleeping time by the parents themselves. One possible reason for this is the higher academic expectations of higher SES parents (60).

## SMOKING

There is not-up-to-date official information on smoking among adolescents in Hong Kong, but existing data indicate that the prevalence is very low and has been decreasing in the last few years, a similar trend to that found among adults. Government figures indicate that the percentage of daily cigarette smokers aged 15 and above was 9.5 percent in 2021, one of the lowest rates in the world (61). A study published in 2019 using data from the school-based Survey on Smoking and Health (SSS) and the Hong Kong Student Obesity Surveillance Project



found that the prevalence of smoking (defined as having smoked any day in the previous 30) among secondary school students decreased from 9.6 percent in 2003 to 3.2 percent in 2011 and 2.5 percent in 2017. However, data is not directly comparable because the grades included in the sample varied in different years (62). The authors point to the expansion of non-smoking areas and increases in taxes as possible explanations of this decline, together with the decrease in prevalence among adults.

Similar results were obtained in a study based on an anonymous survey conducted in 2018/19 with more than 30,000 secondary school students. Researchers concluded that the prevalence of use of cigarettes was 3.2 percent, whereas it was 3 percent for alternative tobacco products, like e-cigarettes or waterpipes (63). This study also found that students from the richest families (a subjective measure based on the students' perception) had higher use of tobacco products, followed by those from the poorest families and those from middle-income families. However, students from the poorest families had a higher relative prevalence of cigarette use compared with other products, whereas those from the richest families had higher use of alternative tobacco products, which are more expensive than cigarettes in Hong Kong. If parental education – which is perhaps a more robust indicator than self-perceived family affluence – is used, students with parents with the lowest education showed a higher use overall. Another study in Hong Kong carried out in 2010 showed that secondary school students who lived in public housing were more likely to have ever tried smoking than those who lived in private housing (64).

## ALCOHOL

Secondary school students with higher SES (in terms of housing and perceived affluence) were found in a study from 2016 to be more likely to start drinking alcohol or be 'binge' drinkers with a dangerous pattern of excessive alcohol use, compared with those with a lower SES (65). These findings should be interpreted with caution, however, since studies in Western countries have shown that people with lower socioeconomic backgrounds experience greater harm from alcohol than those in more privileged positions, even if the amount of alcohol consumed is the same or less; this has been named the alcohol-harm paradox (66) and it has been shown to apply to young people (67). Furthermore, studies in the UK have also found that binge drinking is more prevalent among young people from deprived neighbourhoods (68).

## DENTAL HEALTH

The Hong Kong government has provided dental care to all primary school students (aged 6–11) since 1979, through the School Dental Care Service (SDCS) (69). This service is not provided free of charge, but most students need only pay a small fee, which has stood at HK\$30 since 2018, to attend a school dental clinic.

The prevalence of dental caries has improved since the introduction of water fluoridation in the 1960s, especially among schoolchildren and adolescents, decreasing from 90 percent of children having at least one affected tooth in the 1960s, to about 50 percent in the 1980s and '90s, to 25 percent in the 2010s (70). However, the last two decades have seen no improvement (71). Since 2000, estimates of the prevalence of caries among pre-school children have ranged between 35 percent and 51 percent (70).

Pre-school children in Hong Kong were found to have on average 2.2 decayed teeth, teeth missing due to caries or filled teeth in a study conducted in 2009, while 51 percent of this age group did not have any caries. Although the data are not directly comparable, surveys indicate that the situation could be better in Singapore, with fewer children suffering from caries, but worse in Taiwan and China (72). Data from England shows that 34.3 percent of 5-year-old children from more deprived areas have experienced caries, compared with 13.7 percent of children from less disadvantaged areas (73).

In Hong Kong, socioeconomic differences can also be found. There is a gradient in oral health and children from families with higher incomes have better dental health than those from poorer families (74). A study with 3-year-old children found that having a lower family income, a mother with low education or having been born outside Hong Kong were all factors associated with a higher risk of caries (75).

The combination of water fluoridation and the School Dental Care Service may explain the improvement in the oral health of Hong Kong children and adolescents, and the findings for pre-school children may be related to the fact that they are not covered by the SDCS. These findings could suggest that the SDCS is an effective measure to mitigate the potential effect of SES on the oral health of school children, and there could be a benefit from extending the service or a similar scheme to preschool children, especially those in disadvantaged groups.

# CHAPTER 4

## SPECIAL TOPIC: THE MENTAL HEALTH OF ADOLESCENTS AND YOUNG ADULTS

The first report from this collaboration noted concerns about declining mental health and wellbeing in Hong Kong's population in the context of the COVID-19 pandemic (1). It is worth reiterating from that report the distinction between diagnosed mental illness and symptoms of mental ill-health. Having no diagnosed mental illness does not necessarily mean that someone has good mental health. High levels of depressive or anxiety symptoms in a society, even if they do not rise to the level of a psychiatric diagnosis or treatment, may reflect problems in that society and affect its functioning. Monitoring the prevalence of symptoms is also crucial as rates of diagnosis may vary for reasons unrelated to a real change in the problem, such as increased access to medical assessments or a change in diagnostic categories.

Adolescence is a crucial period for mental health, as it is when many mental health conditions first arise. Close to three-quarters of lifetime mental health disorders have their onset before age 25 years (76). It is a period of change, biologically and socially, and adolescents face many new pressures in their lives. Globally, an estimated 14 percent of 10- to 19-year-olds experience some form of mental health condition (77). In Hong Kong, the caseload of the child and adolescent psychiatric teams of the Hospital Authority grew by more than 50 percent between 2011 and 2016 (78).

Patterns of inequity in the social distribution of mental health problems emerge before adulthood (79). International research has shown that there is a socioeconomic gradient in the mental health of young people, with young people from lower socioeconomic status or living in deprived areas having more mental health problems than more privileged ones (80) (81). Children and young people who grow up in poverty are more likely to have poor mental health. In England, outcomes such as hospital admissions for unintentional and deliberate injuries (including self-harm) have been related to deprivation levels (76). The social determinants of mental health, not only of adolescents but of the whole

population, go beyond income and include factors such as housing, employment, community life, the quality of local services and other socioeconomic, economic, cultural and environmental factors. They have an effect throughout the life course, from pregnancy to the old age (79).

Identifying, assessing and treating need in adolescence can improve mental health, as well as preventing knock-on effects on school participation and attainment, employment, income and other social determinants of health, thus having substantial impacts on reducing inequalities in health. Adolescent mental health is an important time and area in which to strengthen interventions.



## 4A. PREVALENCE OF MENTAL HEALTH PROBLEMS

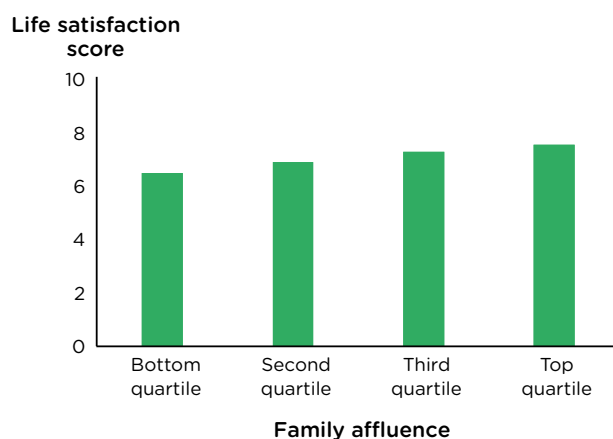
There has been an apparent deterioration in mental health in Hong Kong in recent years, particularly for young people, against a backdrop of social unrest and the COVID-19 pandemic. Although there is no national data from population surveys over time, several largescale individual studies indicate that the mental health situation is serious. Pressure to succeed academically and high academic requirements are also likely to be contributory factors. A survey conducted in 2016 with 1,200 undergraduate students found that those students satisfied with their academic performance were less likely to suffer from mild or severe depressive symptoms, while a higher level of academic difficulty was related to having mild to severe anxiety symptoms, among other factors (82). While academic pressure is longstanding, when combined with the recent effects of unrest and the pandemic, the impacts on the mental health of young people are particularly serious.

One study of subsets of 1213–1736 over 18s in different time points in Hong Kong from 2009 to 2019 found that the prevalence of probable (not diagnosed) depression increased from 1.9 percent in the baseline year of 2009 to 11.2 percent in 2019. The prevalence of suspected (not diagnosed) post-traumatic stress disorder (PTSD), requiring having been exposed to traumatic events related to the social unrest, was 12.8 percent in 2019 and reached 21.3 percent among 18- to 39-year-olds (83). The authors stated that they had identified a significant mental health burden during the social unrest in Hong Kong which required increased service capacity.

In 2020 the Chinese University of Hong Kong (CUHK) joined the cross-national study of Health Behaviour in School-aged Children (HBSC) conducted every four years, which is coordinated by the WHO Regional Office for Europe with participation from over 40 countries and regions (84). 5,307 primary and secondary school students aged 11 to 15 completed a questionnaire on the quality of their health. Hong Kong students scored 6.97 points on life satisfaction, while the HBSC average of 45 countries in Europe and North America was 7.8, but the figures are not directly comparable because the latter refers to data from the 2017/18 study, while Hong Kong's was obtained in 2020, the first full year with the COVID-19 pandemic. Only about 18 percent of Hong Kong students were very satisfied with their current life. Life satisfaction and self-rated health decrease with age among the surveyed adolescents (who were aged 11, 13 and 15), while physical and psychological symptoms of ill-health increase. The higher the family's SES, the higher

the student's self-rated health and life satisfaction, as can be seen in Figure 4.1 (84). There has been no assessment to our knowledge of whether cultural differences in reporting could also play a role in explaining these worse figures in Hong Kong.

**Figure 4.1** Life satisfaction score of Hong Kong students ages 11, 13 and 15 by family affluence score, 2020



**Source:** Chinese University of Hong Kong (84). Hong Kong survey results of the Health Behaviour in School-aged Children (HBSC) 2020

**Note:** Young people were asked to rate their life satisfaction using a visual analogue scale. The Cantril ladder has 11 steps: the top indicates the best possible life and the bottom the worst. Respondents were asked to indicate the ladder step at which they would place their lives at present (from zero to 10).



A study in Hong Kong with nearly 11,500 people, 49 percent of whom were aged under 25, in 2020, found that nearly 75 percent showed moderate-to-high levels of depressive symptoms, including feelings of worthlessness and recurrent thoughts of death. 45.6 percent of those aged 24 or younger reported symptoms of PTSD, such as persistent feelings of fear, anger, guilt or shame (compared with 36.9 percent for the 25–44 age group and 31 percent for aged 45 and over) and 49.6 percent reported symptoms of depression (compared with 36.8 percent of 25–44s and 20 percent of 45-plus) (85). This study, showing decreasing poor mental health with age, contrasts with available data from before the COVID-19 pandemic and social and political unrest in Hong Kong. For example, the Hong Kong Mental Morbidity Survey, which is the first and only territory-wide psychiatric epidemiological study with representative population sampling in Hong Kong, found from data collected through interviews between November 2010 and May 2013 that the prevalence of any common mental disorders (CMD) for young people aged 16–25 was lower,

at 11.32 percent, than the general average of 13.3 percent for Hong Kong adults aged 16–75 (86).

There is evidence of widespread mental ill-health among university students. Prior to the pandemic, a study among students from the Hong Kong Polytechnic University between the 2014/2015 and 2018/2019 academic years showed that 32.7 percent of them had moderate or above average levels of depression; the proportion suffering from moderate or above-average levels of anxiety was 44.7 percent, and 18.6 percent were experiencing stress (87). The authors found evidence of higher levels of depression, anxiety and stress in all years compared with 2014, with a significant increase in the last academic year of the study (2018/19) (87). One year after the onset of the epidemic and after the first four waves in Hong Kong, a study of 1,647 university students found that 40 percent of students from one university showed moderate or above levels of depression, while the corresponding figures were 50.7 for anxiety and 22.2 for stress (88).





## 4B. INEQUALITIES IN MENTAL HEALTH

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Studies in Hong Kong show that children from low-income families have lower self-esteem, more depressive symptoms, and poorer overall life satisfaction than children from wealthier families (89) (90). This is aligned with international evidence that shows that being poor during childhood is associated with worse physical and mental health in adolescence. Poverty in late childhood is especially detrimental in terms of increased risk of experiencing mental health problems in adolescence (91). Adolescents with lower SES and from households with lower income are more at risk of suicidal ideation than their more better-off counterparts (92) (93).

The COVID-19 pandemic has caused enormous disruption to young people's lives around the world, including to their educational opportunities, work prospects, security, housing conditions and social relations, with a significant impact on their mental health (94). Containment measures, such as school closures, created new mental health issues for children and young people, with drastic changes to their routine and increasing social isolation. Disruption to the availability of mental health services has negatively impacted those with pre-existing conditions, according to evidence from countries including England, and has reduced access for those with new diagnoses (95).

However, the social and economic impact of the pandemic and the corresponding containment measures have not affected the mental health of all young people equally, with those from lower socioeconomic backgrounds being at higher risk of developing mental health conditions. More disadvantaged youths were more likely to experience suicidal thoughts during the first lockdown in England and more likely to suffer from mental distress during the pandemic (95).

Children and adolescents from disadvantaged backgrounds have also been more vulnerable to disruptions to schooling arising from lockdowns (94).

The rise of unemployment and inactivity in the first year of the pandemic had disproportional effects among young people in many countries, and those affected could see a long-life effect on their economic prospects and mental health (95) (96).

In Hong Kong, inequalities in the impact of the pandemic on the mental health of adolescents have been observed in a study (under revision) with 1,018 students aged 14 to 16 who completed an online survey between September and October 2021 (97). The authors found socioeconomic inequalities in the worsening of psychosocial wellbeing due to the pandemic, arising through inequalities in learning difficulties and loneliness. The observed inequalities were less apparent in students with a higher level of resilience, understood as the self-perceived ability to bounce back or recover from stress (97). In a recent study with university students during the pandemic, financial difficulty was found to be a risk factor for depression. The researchers point to the fact that financial difficulties were especially hard in Hong Kong because there is no unemployment benefit and university students had fewer opportunities during the pandemic to work part-time to sustain themselves, and the cost of living is very high (98). The inequalities in mental health caused by the pandemic will exacerbate pre-existing inequities between socioeconomic groups.

## 4C. MENTAL HEALTH POLICIES

**The Government of Hong Kong describes its mental health policy as an integrated and multi-disciplinary approach, including promotion, prevention and early identification, as well as timely intervention, treatment and rehabilitation, with cross-sectoral support from government departments and non-governmental stakeholders (78).**

Some researchers contend that, historically, the government has shown no interest in discussing mental health policy and relate this to the long-favoured 'laissez-faire' economic approach and the adoption of fiscal restraint and low social spending in Hong Kong. The pressing need for a substantive mental health policy only broke in upon the legislative agenda as a result of a series of incidents involving people with mental illness in the early 2010s (99).

After these tragic cases led to a public outcry, the government set up a Review Committee on Mental Health in 2013, which made 40 recommendations covering mental health promotion, services for different groups from children to elders, and the practicability of introducing Community Treatment Orders in Hong Kong (78). With the recommendations focusing on promotion and service delivery, they do not address the social determinants of mental health or the many forms of socioeconomic inequality to which mental health is related.

The Advisory Committee on Mental Health was established in 2017 to provide advice on mental health policies and services and monitor the implementation of the recommendations in the Mental Health Review Report (100). It includes representatives from the health sector, social services, education and other government bureaux, such as labour and social welfare, among others, as well as NGOs and laypersons with an interest in mental health (101).

Services targeted at adolescents with mental health needs include the Student Mental Health Support Scheme (SMHSS), which creates a multi-disciplinary team in the school setting, constituting a teacher and a social worker, as well as a psychiatric nurse (102). The team is in contact with other relevant professionals from the healthcare, educational and social services. The programme, which grew from 17 schools initially registered to 210 in 2021–22, has been strengthened with service resources from the Child and Adolescent Mental Health Community Support Service (CAMCom), which encompasses community mental health promotion as well as early assessment, intervention and onward referral (100).

In March 2022, a pilot scheme was launched to explore a new service protocol for supporting and providing care to children and adolescents with mental health needs. The pilot focuses on children and adolescents with attention deficit hyperactivity disorder (ADHD), who together with those with autism disorder (ASD) comprise more than 70 percent of children and adolescents receiving psychiatric services in Hong Kong. The aim is to provide early assessment, support and intervention at the community level through a multi-disciplinary team of clinical psychologists, nurses, occupational therapists and social workers, hoping that this will also help ease the existing pressure on specialist outpatient clinics. By June 2022, it had provided support for 600 children and adolescents (100) (102). There is no easily available information to know if the programme offers additional support or specifically targets children and adolescents from low-income families.

Other ongoing services targeting adolescents are the Adolescent Health Programme (AHP), part of the Student Health Service (SHS). This is a wide-based programme, covering topics such as stress and emotion management, prevention of bullying, weight management, and prevention of tobacco and alcohol consumption, through interventions with students, parents and teachers (103); it is not universally provided. In 2015–16, around 320 schools (78 percent of local day secondary schools) participated in the programme. However, there is no easily available information about their socioeconomic profile. In addition to this, the Early Assessment Service for Young People with Early Psychosis (EASY) programme offers comprehensive support and multidisciplinary care (78).

The government has commissioned two local universities to conduct mental health prevalence surveys, targeting children, adolescents and youngsters, adults and the elderly (102). The results, expected for the first half of 2023, will inform the development of future mental health services. It is important that the information gathered is used to support mental health prevention efforts, focusing on improving conditions in the social determinants of mental health and on reducing socioeconomic inequalities in the prevalence of mental ill-health. As has been noted in previous sections, there are high, and likely increasing, levels of poor mental health among adolescents and young adults in Hong Kong.

# CHAPTER 5

## WORKING AGE ADULTS

Adults entering the working world carry with them the advantages and disadvantages accumulated since birth, which affect their chances of obtaining work, the type of work they are likely to get, and the pay that they will take home. The influences these factors then have on other social determinants – like housing, poverty and access to healthcare – and on health, are detailed in the first report in this series (1).

Unemployment, particularly when it is long-term, contributes significantly to poor health, while good quality employment is protective (2). Poor quality work, which is characterised by adverse physical or psychosocial conditions; by poor pay, insufficient hours, precarity, job insecurity and the risk of redundancy, can be actively harmful to physical and mental health, including higher risks of obesity, heart disease and diabetes (104) (105). Patterns of employment both reflect and reinforce the social gradient in health. Those lower in social level find it harder to get into work, and when they do, the work is more likely to be low-paying, insecure, dangerous, stressful, and to offer lower satisfaction – all of which damage physical and mental health.

Work matters as a source of income. While having money is necessary but not sufficient on its own, and having a reasonable income cannot guarantee good health, having an income insufficient for one's needs will contribute to worse health. It is crucial to health and wellbeing that individuals have control over their own lives and are able to participate in society. Inadequate incomes lead to poor health by making it harder to avoid stress and feel in control of one's life; harder to access resources; harder to adopt and maintain healthy behaviours; and by removing the sense of a supportive financial safety net (3) (106). The relationship is bidirectional: lower income can lead to poorer health, and poor health can reduce earning capacity (2). Paid employment can represent a way out of poverty, but only if the wages and working conditions are sufficient to support an adequate standard of living (107) (108).

In a recent report focusing on the role of business in reducing health inequalities in the UK, the UCL Institute of Health Equity highlighted that acting on pay should be a priority and that companies should bring down pay inequality by, among other things, acting on excessive remuneration packages for senior figures in business (109). Business can affect health, for good or ill, through pay, but also through hours and conditions of work they provide for employees; through the products, services and investments they offer customers and clients; and, more widely, through their influence on communities and wider society. Providing sufficient pay and good working conditions and designing products and services that support health or operate in a sustainable way, are some actions employers can take to have a positive impact on health equity (109).

## ECONOMIC CONTEXT AND SOCIAL MOBILITY IN HONG KONG

Hong Kong's economy is a service-based economy. Employment in Hong Kong has been increasing in the tertiary sector between 2001 and 2016. The proportion of high paid tertiary workers (managers, administrators and professionals) grew from 17.3 percent to 18.8 percent of the working population in this period, while employment in low-income occupations also increased, with services and sales workers and elementary occupations rising from 30.9 percent to 32.5 percent (110).

Income inequalities between high- and low-paid tertiary workers increased. The average gross median monthly income of high-income workers in this group increased by 41.1 percent between 2001 and 2016 (from US\$3,590 to US\$5,064), while those on low incomes saw a smaller increase of 31.9 percent, from US\$924 to US\$1,218 (110). There is international evidence that income inequalities do not foster social mobility. On the contrary, the prospect of earnings mobility across generations tends to be greater in countries where income inequality is lower (111).

We have explained earlier in this report that the increase in post-secondary education places between 1991 and 2011 was mainly due to the expansion of sub-degree programmes. The impact of these sub-degree programmes on earnings is much smaller than the impact of a degree-level education: in 2013, a sub-degree holder's median monthly wage was HK\$15,000, slightly higher than the average worker's HK\$13,000, but a long way behind the HK\$25,000 earned by a degree-holder (40). This has an important effect on inequalities and social mobility, since students from poor families are more likely to enrol in self-financed sub-degree programmes (112).

There is evidence that young people in particular face a stagnating or even downward trend of social mobility in the working world. In 1991, 21 percent of young workers aged 15–24 were working as lower-wage service and sales workers and by 2011 this had increased to 34 percent. Between 2001 and 2011 the share of young people aged 15–29 with degrees taking clerical jobs increased from 11 percent to 18.2 percent, and the share of such degree-holding young people in service and sales jobs increased from 5.1 percent to 6.8 percent (40).

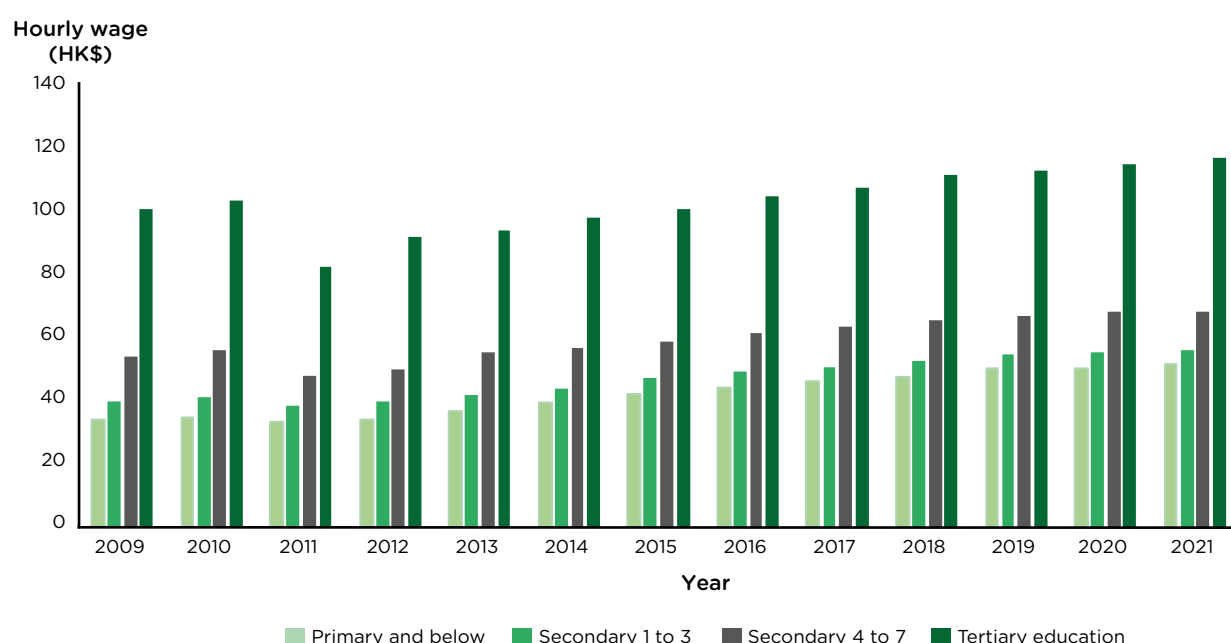
# 5A. INCOME, EDUCATION AND OCCUPATION

In the first report of this series, we explained that Hong Kong has a relatively high Gini coefficient, indicating high income inequality, compared with other developed nations (1). While having a decent income cannot guarantee good health, insufficient incomes can lead to poor health by making it harder to avoid stress and feel in control of one's life, to access resources and to adopt and maintain healthy behaviours, and by removing the sense of a supportive financial safety net (1).

Earnings from employment are the main source of income for the working population and their distribution is shaped in great part by inequalities in educational attainment. As happens in other countries, workers with tertiary education earn considerably higher wages per hour than all the other groups (113). As shown in Figure 5.1, in Hong Kong median hourly wages rose for all educational attainment groups between 2009 and 2020. The difference in earnings between workers with tertiary education and those with only

primary level education or below remained largely constant over this period, with the former earning around twice as much as the latter, indicating a clear correlation between educational level and wages and a great disadvantage in the labour market for individuals with a low level of education. The earnings ratio by education between the highest and lowest earners was highest in the years immediately after the global financial crisis, reaching a threefold difference between both groups in 2009 and 2010.

**Figure 5.1 Median hourly wages by educational attainment, Hong Kong, 2009-21**



**Source:** Census and Statistics Department, Government of the Hong Kong SAR (113).

**Note:** In 2009 and 2010, the hourly wage was calculated by dividing total wages paid to an employee in the wage period by the total number of working hours in the same period, not counting rest time and meal breaks. From 2011, meal breaks regarded as working hours according to the employment contract or agreement with the employer are also included.



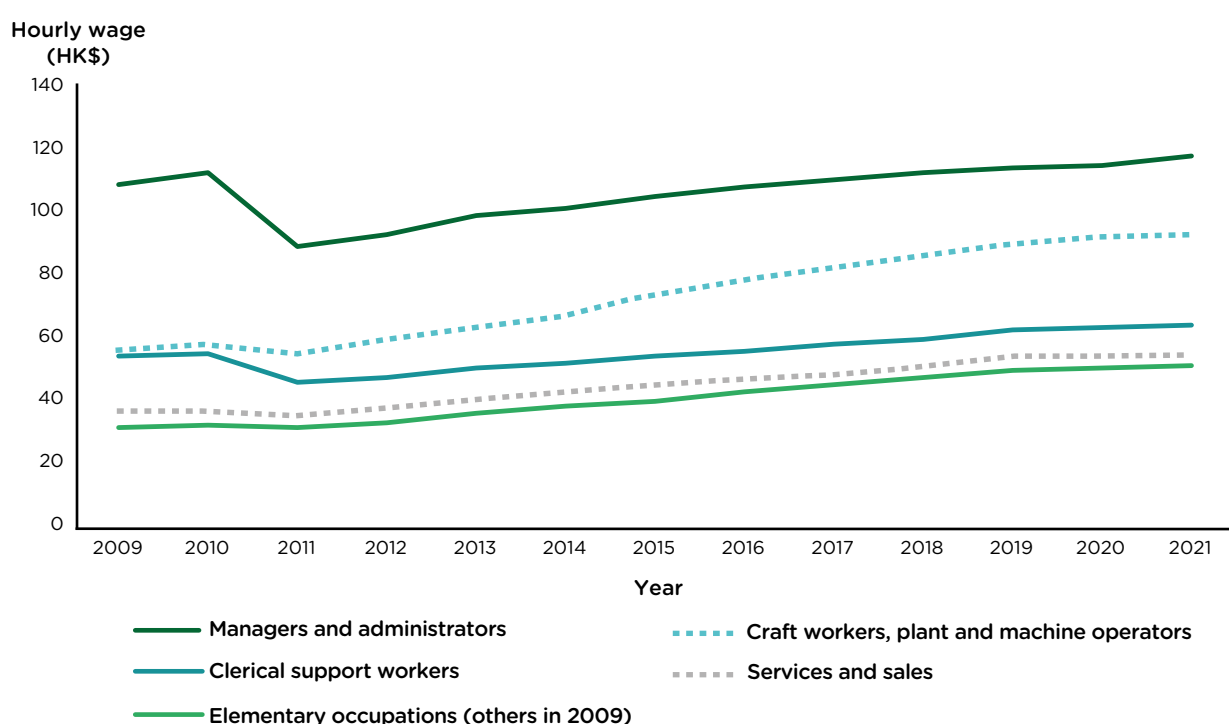
In a historical perspective, researchers have highlighted a decline in real earnings of university graduates across six birth cohorts (born between 1964 and 1993) after analysing data from the General Household Survey between 1993 and 2013. Graduates from the latest cohort had the lowest real earnings when first entering the labour market (114).

There is a clear education gradient in the distribution of young workers across different sectors, which is contributing to widening wage inequalities among young workers. Young people with degrees or above level of education are more often found working in the finance, insurance, real estate and business sectors, as well as in the community social and personal services, all of which

offer higher than average salaries. In contrast, those with sub-degrees and secondary or below education tend to work more in commerce, construction, transport, storage and communication, sectors that offer less than average salaries (114).

Median hourly wages were greater among managers, administrators and professionals than among other occupation groups between 2009 and 2021, as shown in Figure 5.2 (113). In 2021, these groups had a median hourly wage of HK\$116.2, as opposed to HK\$92 earned by craft and related workers and plant and machine operators and assemblers, HK\$63.2 by clerical support workers, HK\$54.3 by service and sales workers, and HK\$50.8 by workers in elementary occupations.

**Figure 5.2 Median hourly wages by occupation, Hong Kong, 2009–2021**



*Source:* Census and Statistics Department, Government of the Hong Kong SAR (113).

*Note:* Elementary occupations include cleaners, security guards, building caretakers, messengers, delivery workers, couriers, dishwashers, freight handlers, lift operators, labourers/general workers, hand packers, and card/pamphlet distributors. Craft workers include bricklayers, carpenters, and other construction workers; machinery, and electronic instrument mechanics; jewellery workers and watchmakers, while plant and machine operators include drivers; food processing machine operators; printing machine operators; and machine operators for production of textile, rubber and plastic products (113).

In the first report of this series, we explained that working poverty is an issue in Hong Kong, where close to one in four of those living in poverty are in full-time employment (1). Workers with low levels of education, who work in low-skill sectors and who are in temporary employment are more likely to experience poverty measured by income, as well as material deprivation (being unable to have the resources and participate in activities considered essential in society). This distinction is particularly important in Hong Kong, where the high cost of living, especially housing costs, can push workers towards material deprivation even if they are not poor by official standards (115).

In that report we also highlighted that child poverty has worsened in Hong Kong since 2018 and this is related to the significant increase in the number of working poor families. When compared with other countries of similar development levels, Hong Kong had the second highest poverty rate among children under 18 years old, after taxation and welfare intervention, just behind the United States. Growing up in a poor family negatively affects health in children, as well as into adulthood. It also harms education, employment and income prospects as adults, casting a long shadow over the life course and perpetuating inequalities into future generations (95) (116).

## 5B. UNEMPLOYMENT

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**Unemployment, particularly long-term and youth unemployment, damages health and widens health inequalities. Unemployed people incur a multiplicity of elevated health risks. They have increased rates of limiting long-term illness, mental illness and cardiovascular disease.**

The experience of unemployment has also been consistently associated with an increase in overall mortality, and particularly with suicide. Unemployment has both short- and long-term effects on health. It has an immediate negative impact on the health outcomes of a person made redundant, but also steady negative effects, proportional to the duration of unemployment (2).

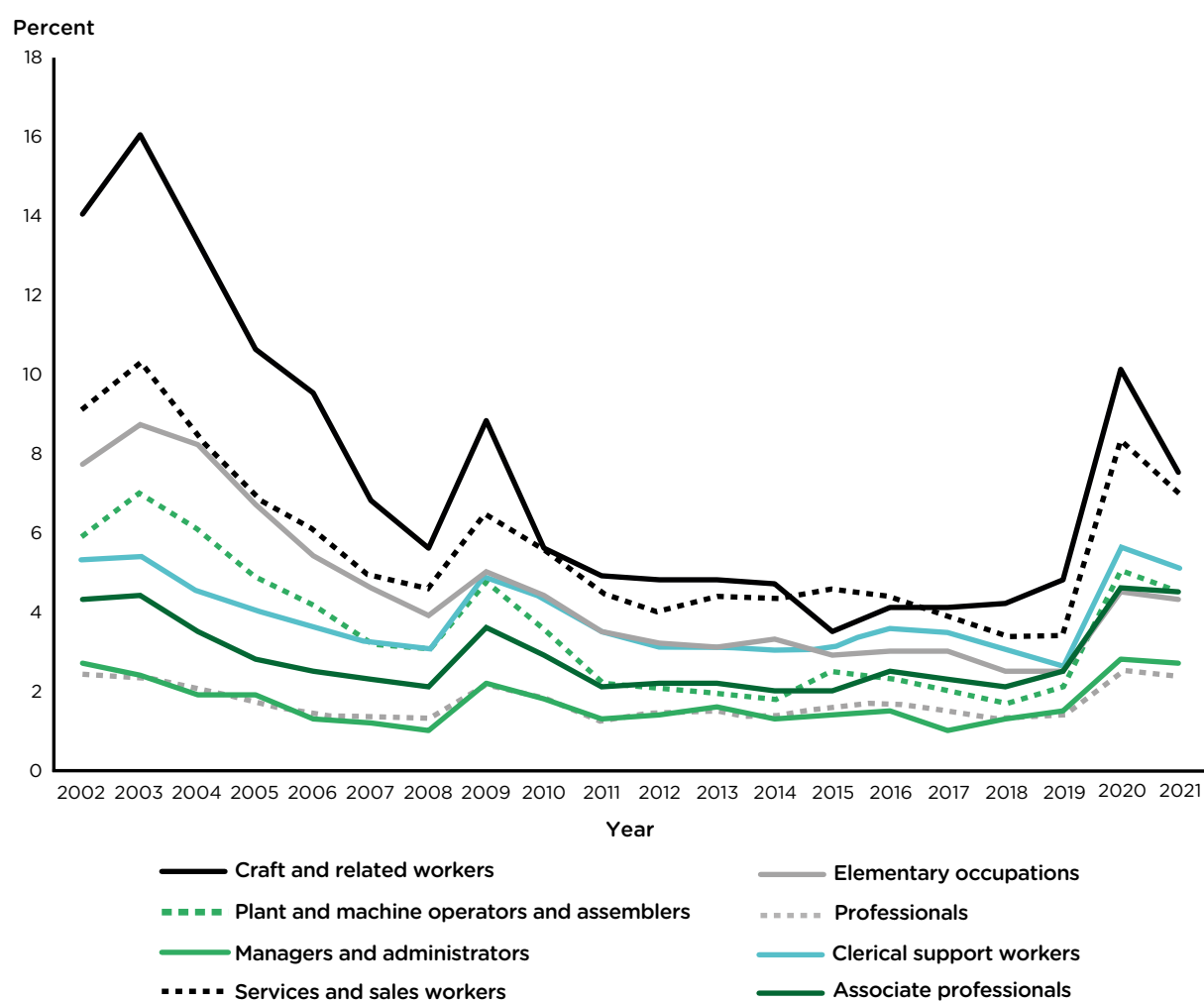
The unemployment rate in Hong Kong has generally remained at a low level of 3-4 percent since peaking at 7.9 percent in 2003. Young people aged 15-19 have had a consistently higher unemployment rate than older workers, as have those in lower socio-economic status jobs (117). Such inequality is consistent with the situation of low-quality work in the UK (118).

There have been three distinct peaks in unemployment, all originating in external shocks, as shown in Figure 5.3 (117). The first big rise took place in 2003, in the aftermath of the outbreak of SARS (severe acute respiratory syndrome). Hong Kong was just starting to recover from the effects of the Asian financial crisis when the SARS crisis hit, damaging tourism and local consumer spending (119). The second big increase in unemployment happened in 2009 as a result of the global financial crisis and its impact in Hong Kong, reaching 5.4 percent (120). The economy experienced a strong recovery in 2010 (120).

The third increase in unemployment was a result of the COVID-19 pandemic in 2020, when it reached 5.8 percent. While all age groups were affected by the shock, younger workers were more vulnerable. The pandemic also exacerbated existing inequalities in the labour market based on educational attainment. In contrast with 2018, when there were no big differences in unemployment levels between groups with primary-level education and below, those with upper secondary and those with post-secondary education, and when the level was low (between 2.7 percent and 3.4 percent), during the pandemic unemployment rose more steeply for the first two groups, indicating that workers with post-secondary education were more protected from the risk of losing their jobs. Workers with a post-secondary degree were most shielded; their unemployment rate increased by 2.1 percentage points between 2018 and 2020, compared with 3.4 points for those with primary education and below (117).

As can be seen in Figure 5.3, vulnerability to unemployment is also unevenly distributed among different occupational groups, with some categories of workers more likely than others to become unemployed during economic crises. Craft and related workers are the most vulnerable in times of crisis. The unemployment rate in this group rose by 2 percentage points (pp) in 2003 compared with 2002, by 3.2pp in 2009 relative to 2008 and by 5.3pp in 2020 compared with 2019 (117). During the COVID crisis, low-skilled service and sales workers also experienced a big rise in unemployment, in particular those working in retail, accommodation and food services and in the construction industry (121).

**Figure 5.3 Unemployment rate by previous occupation, Hong Kong, 2002-2021**



**Source:** Data for 2002 to 2015 from Census and Statistics Department, Government of the Hong Kong SAR, *The Profile of the Unemployed Population in Hong Kong*; Data from 2016 to 2021 from Census and Statistics Department, Government of the Hong Kong SAR. Table 10: Unemployment Rate by Previous Occupation (117).

**Note:** The occupation classification adopted in the General Household Survey has been enhanced since January – March 2022 to follow the International Standard Classification of Occupations 2008 (ISCO-08) more closely. The statistics since 2016 were compiled based on the revised classification scheme. Figures based on this classification are not directly comparable to those for earlier years.



Along with unemployment, underemployment (when people in employment are working less time than they are willing to and available for) also increased sharply during the pandemic to a record annual high of 5.6 percent (122), and 17.5 percent of employed persons were working less than 35 hours in the final quarter of 2020 (121).

Increases in unemployment and underemployment worsen inequalities and deprivation among significant proportions of the population and may have long-term impacts on health. Governments can act to ameliorate the impacts on health by providing income support to affected workers and putting in place active labour market policies to help workers return to the labour market with decent jobs. Investment in active labour market programmes has been shown to reduce the effect of unemployment on suicides in European countries (123).

Hong Kong introduced a variety of active labour market policies in the 2000s, but with a relatively low level of spending (124). There are no unemployment benefits for those who lose their jobs. Instead, there is only the Comprehensive Social Security Assistance Scheme (CSSA), a means-tested benefit that is conceived as ‘a safety net of last resort’, as characterised by the Legislative Council Panel on Welfare Services in 2019 (1).

The impact of the COVID-19 pandemic, however, prompted the Hong Kong government to put in place an unprecedented range of measures to support individuals and businesses, which we described at length in the first report of this series. Among them was the Anti-epidemic-fund, which has undergone several rounds. As part of it, the government launched the Temporary Unemployment Relief Scheme (TUR) in March 2022, consisting of a one-off subsidy of HK\$10,000 for individuals who lost their jobs or were requested not to work because of social distancing measures since the fifth wave of the pandemic that started in December 2021 (125). In May 2022 it launched the Unemployment Relief scheme to provide wage subsidies to employees for three months (126).

All in all, according to government estimations in 2020 all policy interventions combined (comprising around 50 measures in taxation, recurrent and non-recurrent cash payments, and means-tested in-kind benefits) lifted 461,200 households and 1,099,000 individuals out of poverty, reducing the poverty rate to 7.9 percent from a theoretical pre-intervention rate of 23.6 percent. However, government estimates have been criticised for drawing the poverty line too low (it is set at 50 percent of the median monthly household income) (127). Also, the pre-intervention poverty rate increased to 23.6 percent from 21.4 percent the previous year (122).



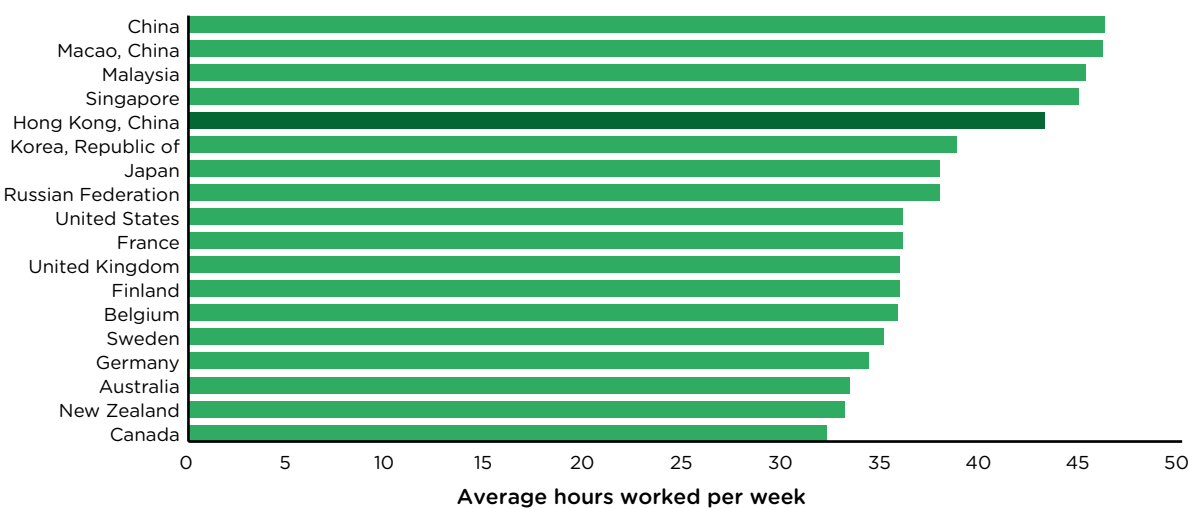
# 5C. EMPLOYMENT CONDITIONS

## WORKING HOURS

Long working hours can increase the risk of fatigue and accidents. There is also evidence that they can lead to increased stress, depressive symptoms and other forms of mental ill health. According to the WHO, long working hours – 55 hours or more week – is the occupational risk factor most associated with increased mortality, responsible for around 750,000 deaths per year globally due to the resultant increased incidence of stroke and ischaemic heart disease (128).

Hong Kong employees have longer working hours than those in many developed countries. Figure 5.4 shows that the average for full-time workers in Hong Kong is 43 hours per week, outstripping South Korea’s 38.7 hours, as well as Japan, the USA, the UK and Germany, all of which have average working times of less than 40 hours a week. Singapore’s average is longer, at 44.7 hours (21).

Figure 5.4 Average hours worked per week per employed person, Hong Kong and selected countries, 2016-20<sup>1</sup>



Source: ILOSTAT (21).  
Note: 1. Reference years vary between 2016 and 2020.

A 2015 survey of 71 global cities found an even longer working week in Hong Kong, at 50.1 hours, which placed Hong Kong out front, far ahead of Mumbai and Mexico City in second and third place on 43.8 and 43.5 hours respectively (129).

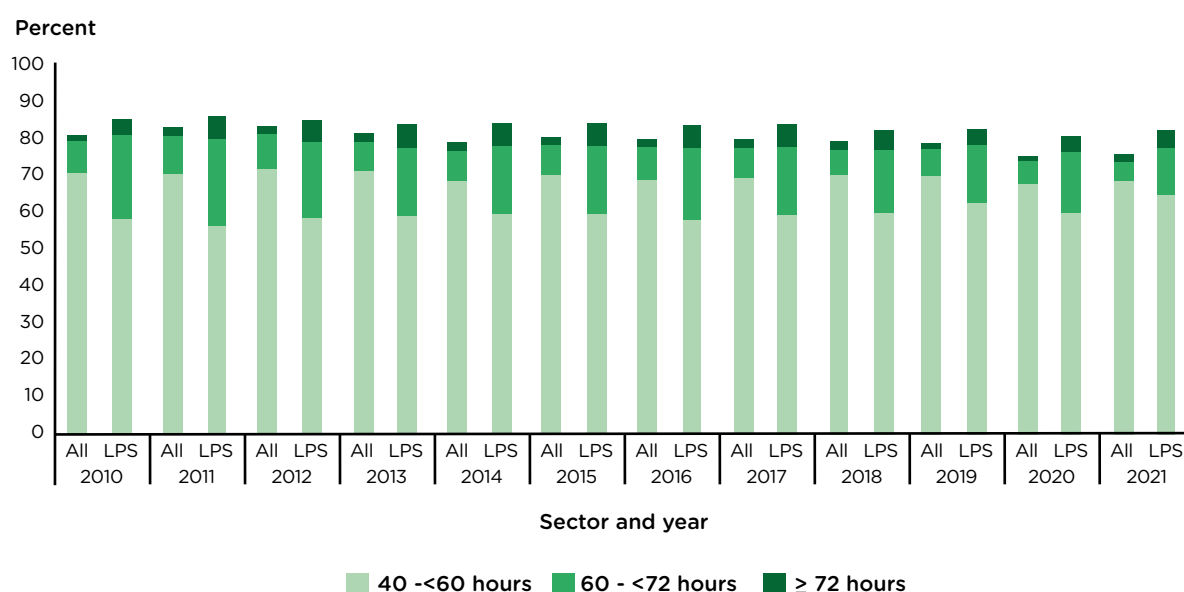
The situation is worst in low paying sectors (LPS), which have emerged as the manufacturing sector has dwindled and the service sector has become increasingly polarised between high-income and low-income jobs. According to the Hong Kong Minimum Wage Commission, LPS comprise retail; food and beverage services; estate management, security and cleaning services; and ‘miscellaneous activities’, which include elder care, laundry and dry-cleaning services, hairdressing and other personal services, local courier services, and food processing and production (130).

Studies in Hong Kong have shown that long working hours affect levels of anxiety. A study of 1,058 economically active respondents found that 72 hours of work per week was a significant threshold, above which workers tended to experience higher levels of anxiety, although workers are likely to feel stressed well before this level is reached. A greater length of stay at their current job had a protective effect on workers, theorised to be due to the perceived stability. This suggests that the combination of precariousness and long working hours poses a particular risk to the wellbeing of workers (131).

In 2021, 75 percent of all workers in Hong Kong were working 40 hours a week or more, while 7 percent were working 60 or more. Workers in LPS are more even more exposed to long working hours, with 80 percent of workers in these sectors working 40 hours a week or more, 17 percent working 60 hours or more and close to 5 percent working 72 or more hours (113). Figure 5.5 shows the time trend in these distributions between 2010 and 2021.



**Figure 5.5 Percent of workers working 40 hours and over and workers in Low Paying Sectors<sup>1</sup> (LPS), by hours worked, Hong Kong, 2010-2021**



*Source: Census and Statistics Department, Government of the Hong Kong SAR (113).*

*Note: 1. Low-paying sectors (LPS) comprise: i) retail, ii) food and beverage services, iii) estate management, security and cleaning services and iv) miscellaneous activities (elderly homes, laundry and dry-cleaning services, hairdressing and other personal services, local courier services, food processing and production).*

Employees in low-paying sectors are also at a higher risk of having industrial accidents than the general population of employees, making up around 50 percent of all accidents, but only just over 25 percent of jobs (132) (113).

## STRESS, BULLYING AND BURNOUT

There are no official estimates of occupational stress and anxiety in Hong Kong that are similar to those obtained from the Labour Force Survey in the UK. However, there is research that suggests workplace stress is common in Hong Kong, and it has major impacts on health and productivity. There are inequalities in how this stress falls among different socioeconomic and occupational groups.

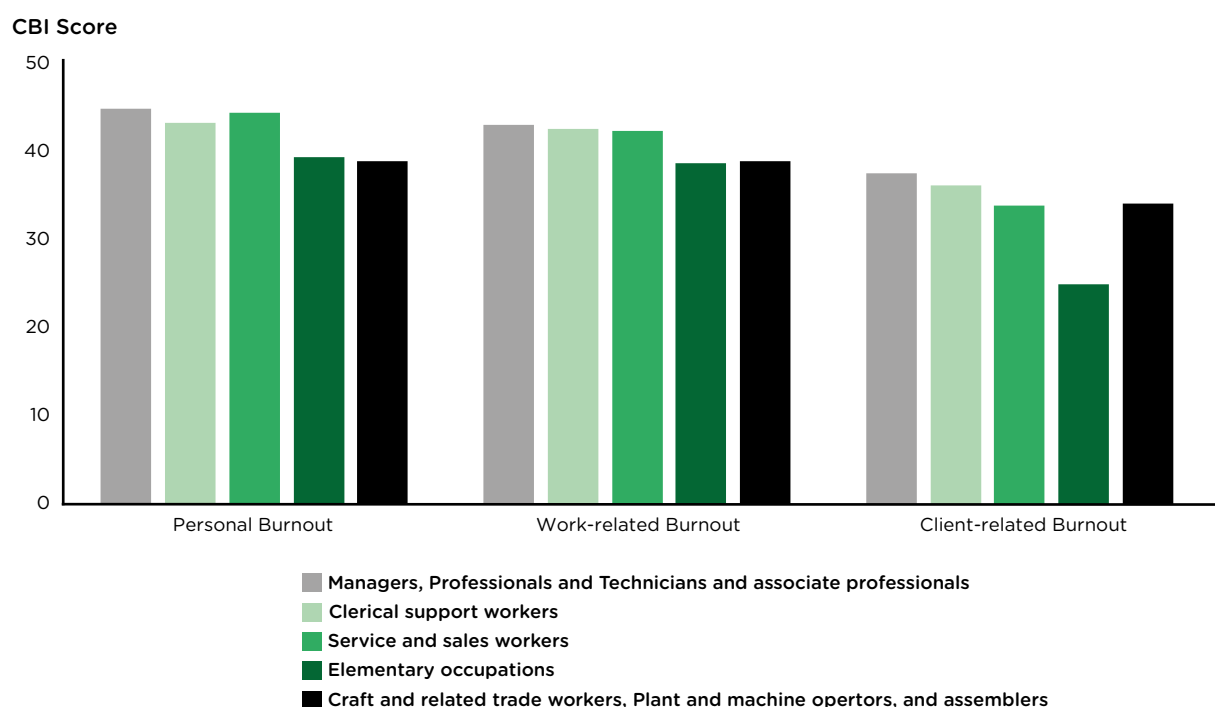
For example, a study from 2020 of 2,032 working adults aged 18–70 in Hong Kong found that major job stressors include the work/home interface, job insecurity, interpersonal conflict, quantitative workload and organisational constraints. The study attempted to quantify the economic losses associated with these stressors by combining the costs of absenteeism, presenteeism and medical expenses generated by workplace stress. The total annual economic cost was estimated at between HK\$4.81 billion and HK\$7.09 billion, with between HK\$2.889 billion and HK\$4.083 billion from medical expenses alone (133).

A 2017 self-reported survey of 2,657 Chinese respondents aged from 18 to 60 years old who had school-age children in Hong Kong found that 39.1 percent had experienced workplace bullying in the preceding 12 months, and 58.9

percent at some point in their working lives. This survey found that higher levels of educational attainment and individual income were associated with a higher risk of having experienced bullying (134). The authors of this study hypothesised that high levels of competition in high-status jobs may have contributed to this finding, or employers attempting to bully more costly higher-paid employees out of their jobs to be replaced by cheaper new employees. However, these results should be considered tentative and with limited generalisability for several reasons: first, since a definition of bullying was not provided to respondents there may have been differential perceptions of what constitutes bullying. Also, the survey was based on self-reporting of parents from a Chinese cultural background and with school-age children in 21 schools in Hong Kong that agreed to participate in the study, and therefore cannot be considered representative of a wider population.

A survey on occupational burnout in Hong Kong workplaces conducted in 2017 found that employees in higher status occupations (managers, professionals, technicians and associate professionals) reported more personal burnout, work-related burnout and client-related burnout than employees of other socio-economic groups, as illustrated in Figure 5.6 (135). This survey was based on the Copenhagen Burnout Inventory (CBI), which focuses mainly on a person's perception of physical and psychological fatigue and exhaustion that is related to their work. There is no further data on how this self-reported burnout translates, if at all, into differential health outcomes.

**Figure 5.6 Scores of three types of Copenhagen Burnout Inventory (CBI) by occupation, Hong Kong, 2017**



*Source: Occupational Safety & Health Council (2018) (135).*

*Note: The score of Copenhagen Burnout Inventory (CBI) goes from 0 (never feels burnout) to 100 (is always burnout).*

A 2020 survey of 1,007 working adults in Hong Kong identified three statistically distinct classes of workers based on the intersections of six socioeconomic and demographic factors: age, gender, income, education, occupational category, and industry. They labelled these groups labourers, established leaders and emerging executives, and found that they had distinct patterns of workplace stressors and responses. They found that lower

socioeconomic status was generally associated with higher levels of work stress and worse health outcomes. However, they did again find that the higher-status established leaders were more likely to have experienced workplace bullying, a finding they linked to the difficult position of middle managers in Asian business environments, which emphasise conformity, and confer additional responsibility without additional autonomy (136).

# CHAPTER 6

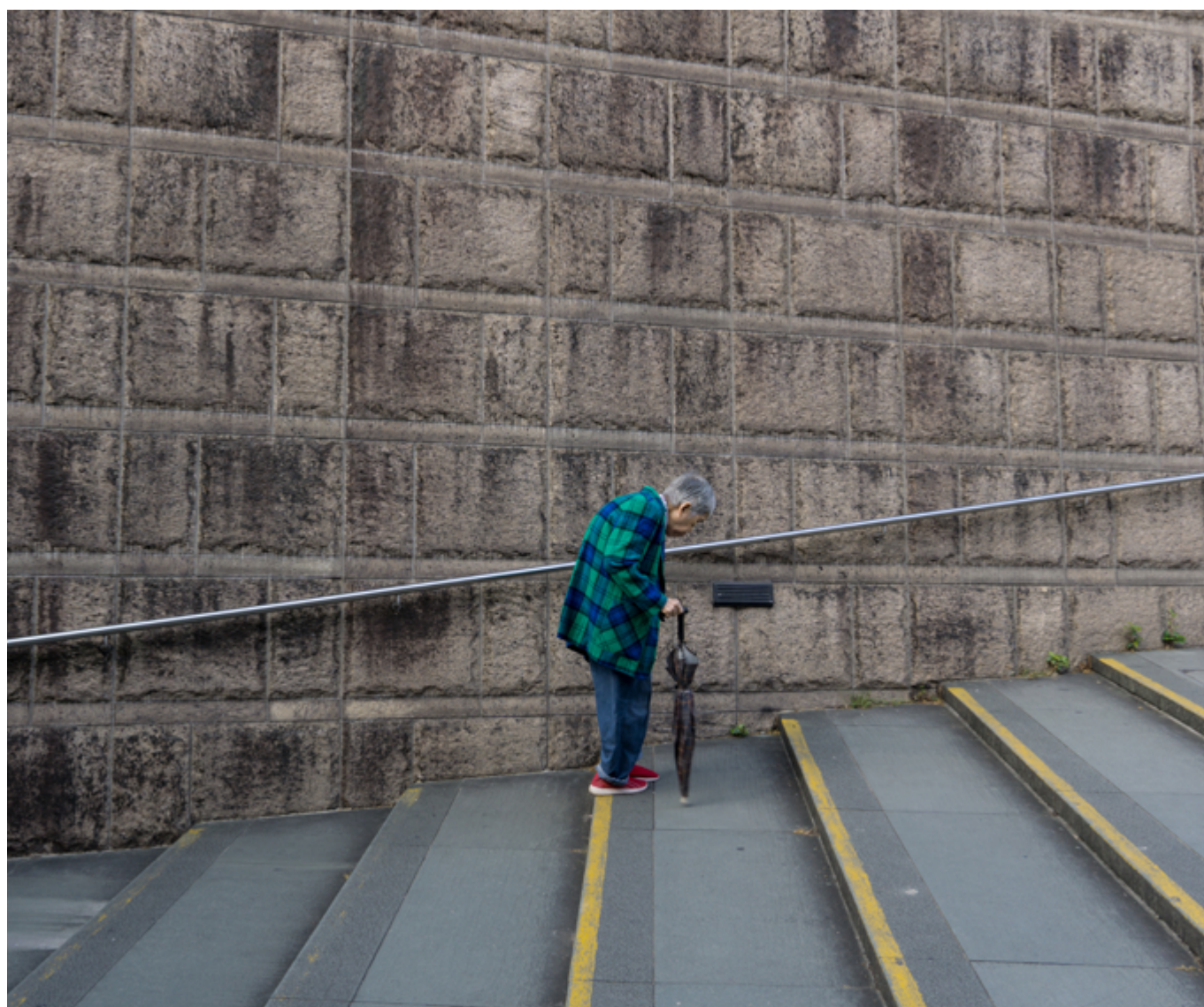
## OLDER ADULTS

The health of older adults is of particular concern in a rapidly ageing society like Hong Kong's. According to official projections, one third of the entire population will be aged 65 or over by 2039 (137). The first report in this series noted the increasing problem of poverty in older age, the limitations of Hong Kong's pension and welfare provision for older people, and the potentially double-edged interpretations of more older people remaining in work – which can be positive if it reflects healthier older people choosing to continue health-supporting and fulfilling work, but negative if it rather reflects poorer older people being forced back into inappropriate work due to poverty (1).

When assessing the health of an older population, it is important to do so in the context of an understanding of healthy ageing. Healthy ageing is defined by the WHO as ‘the process of developing and maintaining the functional ability that enables wellbeing on older age’ (138). As we age, the likelihood that we develop one or more chronic diseases increases. Chronic diseases are, of course, important. Perhaps more important are measures of function, and how ill health affects the day-to-day life of older people.

Increases in life expectancy coexist with inequalities in disability-free life expectancy (DFLE), which is an important measure that better reflects the rate of people who are healthy and able to function and participate in daily-life activities into old age than the straightforward life expectancy measure. In many countries, data show widening inequalities in DFLE by socioeconomic position, meaning that people from lower socioeconomic backgrounds spend a smaller and a decreasing proportion of their lives free of disability compared with those from higher socioeconomic backgrounds (139).

The CUHK Institute of Ageing has developed the Hong Kong Elder Quality of Life Index (HKEQOL), covering four domains of wellbeing: income security, health status, capabilities and enabling environment. This index began in 2017, with 100 set as the baseline, and the score rose slightly between 2017 and 2019, particularly in the domains of income security and capability, reflecting a positive trend. However, the 2020 survey, in the wake of six months of social unrest and four months of the COVID-19 pandemic, showed a marked deterioration of the score to 93.22 (140).





## 6A. INEQUALITIES AND THEIR IMPACT ON THE WELLBEING OF OLDER PEOPLE IN HONG KONG

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Inequalities in health in old age are often the result of accumulated disadvantage over the life course stemming from factors such as education, occupation, income, gender or location, as well as from differences in access to health and social security. Often, those who need more access to interventions are those who are the most excluded (141) (142). Since healthy ageing depends on the whole life trajectory of a person, policies and interventions can be devised at different life stages to have a positive impact (142).

Good health and wellbeing are not distributed equally among older people in Hong Kong. Research has identified social gradients in health in people aged over 60 by level of income, education and disposable income (143). Lower socioeconomic position has been associated with worse overall health outcomes in people aged 65 and over (144). Older people with inadequate disposable incomes and lower education level are also more likely to suffer from low subjective wellbeing (145). Older women in Hong Kong, although having lower mortality than men, suffer from worse self-rated physical and mental health, and a higher risk of frailty than men, in keeping with the pattern observed around the world (144). A telephone survey of Chinese people aged 65 and over in Hong Kong in 2006/07 found that older men reported better health-related quality of life than older women (146).

One study looked at years of life lived with cognitive and/or physical impairment in Hong Kong with a large data set from 71,697 attendees of Elderly Health Centres (EHCs) from 2001–2 and from 2011–2. The study found that the number of years people at age 65 could expect to live free from significant physical or cognitive impairment increased with level of education achieved for both men and women (147). It is worth noting that attendees at EHCs would have to be physically able to attend, and be able to afford care, which is not free of charge, so the most ill and the poorest may have been excluded from this study.

Mental health in older age is also a concern, including conditions that develop primarily in older age like forms of

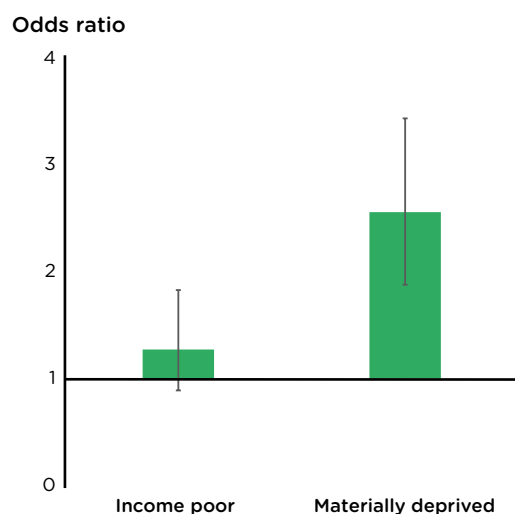
cognitive impairment and dementia. According to the last available Hong Kong Mental Morbidity Survey (HKMMS), carried out between 2010 and 2013, the most common mental disorder among people aged 66–75 is generalised anxiety disorder, followed by depressive episodes (86).

In Hong Kong, lower educational attainment, financial strain, worse self-rated health and functional impairment are all associated with more depressive symptoms in people aged 65 and over (148). There is evidence that cognitive function in older age in Hong Kong is correlated with level of education, receipt of Comprehensive Social Security Assistance Scheme (CSSA) payment, and type of housing, all of which are related to inequalities in the social determinants of health (149).

Evidence in Hong Kong suggests that material deprivation is a better predictor than income poverty of depressive symptoms. In fact, the association of depressive symptoms with income poverty disappears when material deprivation is controlled for – see Figure 6.1, suggesting that deprivation is the more crucial factor (148). This has policy importance: some older people may be income-poor but have significant assets, protecting them from experiencing deprivation, while others may appear to have sufficient income, but be low on assets and experience; for example, excessive housing costs may leave them deprived of other necessities. Other evidence suggests that having an adequate disposable income is more linked to good overall health than having a certain absolute level of income among people aged 60 years and over, particularly for women (150).



**Figure 6.1 Odds ratios<sup>1</sup> of suffering symptoms of depression for material deprivation and income poverty, after adjusting for the interaction of these factors and for other covariables<sup>2</sup>, Hong Kong, 2017**



*Source: Cheung and Chou (2019) (148).*

**Notes:**

1. Odds ratio indicates the odds of suffering symptoms of depression in the presence of a given risk factor as compared with its absence: an OR lower than 1 indicates a protective effect, while an OR of 1 indicates no association, and an OR higher than 1 indicates that the risk of depression is more likely with the risk factor than without.
2. Odds ratios were adjusted for the following covariables: age, gender, education level, marital status, financial strain, self-rated health, functional health, neighbourhood collective efficacy, social support, sleeping quality and pain.
3. Error bars represent 95 percent confidence interval.

There is evidence in Hong Kong for a significant longitudinal association between the baseline subjective social status (SSS) and long-term mental health of people aged 65 and older. Even after adjustment for traditional socioeconomic indicators, clinical conditions and functional status variables, higher baseline SSS shows a significant association with lesser depressive symptoms at four-year follow-up (151). In one survey of older people, respondents with higher educational attainment and higher-status occupations reported better quality of life, as did those who owned their own homes or experienced less economic hardship (146).

## MULTIMORBIDITY

Multimorbidity is the state of having two or more chronic medical conditions. Chronic diseases are, for the most part, conditions that are managed rather than cured, and tend to accumulate as we age. The prevalence of multimorbidity is increasing worldwide (152). There may be many factors contributing to this phenomenon: most simply, an ageing population is more likely to have multiple manageable health conditions. As new treatments become available and affordable, conditions that were previously fatal become chronic conditions. There are changes in factors affecting the prevalence of chronic conditions: obesity, for example, is linked to a number of chronic conditions, including type-2 diabetes and ischaemic heart disease (153). It is also possible that rates of diagnosis have increased with improved testing technologies and screening programmes and wider availability of medical assessment.

An increased burden of multimorbidity is of concern, as multimorbidity has been linked to lower quality of life, worse self-rated health, worse physical function, and increased mortality risk. Multimorbidity increases the use of primary care and hospital admissions, increases complexity and costs of care, and can put strain on healthcare systems (154) (155).

In the first report of this series, we mentioned a study in Hong Kong that found people educated to primary school level or below, those who have less than HK\$15,000 of monthly household income, those who are jobless or retired and those who were previous daily smokers are at a higher risk of having two or more chronic medical conditions (1).

In that report we described that Hong Kong has a dual public-private healthcare system: the vast majority of inpatient services are provided by the public sector which is tax-funded with low additional fees at the point of care, but primary care is largely provided by the private sector (over 70 percent market share) with substantial fees at the point of care (156) (1). A study found that patients who receive care mostly from private GPs reported better experiences than those from publicly funded clinics (157). In Hong Kong, people from lower socioeconomic position may experience less access and worse care over time than those from more privileged backgrounds, although they experience a higher burden of multimorbidity (158). This would widen already existing inequalities in people living with chronic diseases.

One study from 2019 in Hong Kong attempted to determine whether there has been an increase in the burden of disease by analysing statistics by birth cohort. The study looked at chronic diseases including diabetes, high blood pressure, high cholesterol and diseases of the heart, lungs, kidneys, liver and thyroid. There were quite distinct patterns between men and women.

Men born between 1945 and 1954 had a lower risk of multimorbidity than earlier cohorts, and later cohorts have largely maintained this lower risk, which the authors hypothesise may be related to the persistent decline in rates of smoking since the 1980s. For women, in contrast, there is evidence that the latest cohort in the study, born between 1970 and 1974, faces a higher risk of disease burden than earlier cohorts. The study authors suggest that this could be due to increased education of women of later generations, which enhanced health awareness which, together with improvements in healthcare services, resulted in higher levels of diagnosis, rather than a true increase in morbidity (159).

Other research backs up this idea, as mortality did not increase, but rather decreased, for both men and women for successive cohorts throughout the 20th century (160) (161).

## FRAILITY

While the burden of morbidity is important, an accumulation of diagnoses is common in older age, and therefore there may be more useful measures of functioning such as frailty. Despite being widely used, there is no one accepted definition of frailty. It can be described as a state of increased vulnerability, or 'pre-disability' associated with ageing and is related to an increased risk of negative health outcomes, including hospitalisation and death (162) (163).

One study of 816 people aged 65 or over living in the community in Hong Kong found that the prevalence of pre-frailty and frailty was 52.4 percent and 12.5 percent, respectively (164). The prevalence of frailty increased with age from 5.1 percent for those aged 65–69 years to 16.8 percent for those 75 and over, and was higher for women than men (13.9 percent versus 4.2 percent). These numbers are likely to underestimate the true burden, as recruitment for the study took place in community settings that more excluded groups, either socioeconomically disadvantaged or experiencing greater disability, would be less likely to attend. Frail participants were found to have more chronic diseases, be taking more medications, report more falls, have worse self-rated health, have more depressive symptoms, have a higher risk of mild cognitive impairment, and have more impairments in functioning than the pre-frail. Increased levels of physical activity were associated with a reduced risk of frailty.

In a study examining longitudinal trajectories of frailty among Chinese people aged 65 and over in Hong Kong, comprising a cohort (born between 1901 and 1923) and four later cohorts born up to 1947 (born 1924–29, 1930–35, 1936–41 and 1942–47), it was found that more recent cohorts had higher levels of frailty than did earlier cohorts at the same age, controlling for gender, marital status, educational levels, socioeconomic status, lifestyle and social factors. Older age, being female, widowhood,

having a lower level of education and smoking were associated with higher levels of frailty (165). The increasing levels of frailty may be a result of survivorship bias, whereby the most frail are surviving longer than they previously were, but the authors also speculate about the effects of increased sedentary working patterns and reduced community cohesion as contributing factors.

Regarding social inequalities in frailty, lower self-rated subjective social status has been found to be associated with an increased risk of frailty in men aged 65 and over living in the community, independent of objective measures of status and other predisposing factors related to mental and physical health. The study did not find a social gradient in frailty for women (166).

In the context of an ageing population, the burden of frailty is likely to increase – and to do so the most in those with the highest risk, reducing the quality of life and increasing healthcare costs. If health policy and healthcare services focus exclusively on disease and diagnosis, rather than on clinical syndromes like frailty, there is a danger of this group being neglected, to the detriment of older people in Hong Kong.

## LONELINESS

Loneliness is a major concern for many older people. The loss of friends and loved ones, combined with reduced opportunities for social connection exacerbated by mobility and functional limitations, can lead to social isolation and feelings of loneliness. There is a difference between social isolation and loneliness. Social isolation is an objective measure of reduced social contact, while loneliness is the subjective negative feeling that isolation can engender. It is worth noting that not every older person who spends time alone is lonely, and nor does the mere fact of contact with another person necessarily remove the sense of loneliness.

Together, isolation and loneliness have significant public health ramifications. They have been linked to a range of physical and mental health outcomes, including depression, anxiety, dementia, schizophrenia and suicide, as well as coronary heart disease and other cardiovascular conditions, cancer, and increased susceptibility to infectious disease (167).

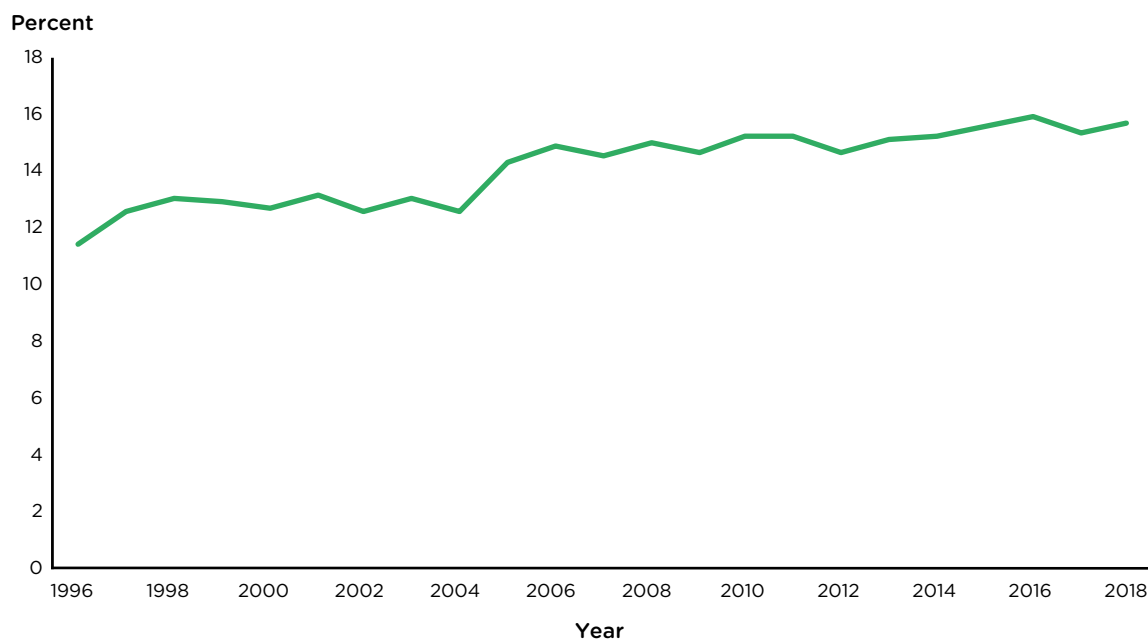
A systematic review of studies from 2008 to 2020 found that loneliness affected 29 percent of older people across 29 high-income countries (168). In Hong Kong, a study by the CUHK Jockey Club Institute of Ageing based on a survey of 1,200 older adults aged 50 and above on feeling lonely found that 54 percent of respondents felt lonely at least sometimes (169).

Research in the UK has shown that people living alone are more likely to have multiple long-term conditions and poorer mental health (170). People who live alone are

also more likely to feel lonely. For example, older people in the UK are 1.6 times more likely to be often lonely if they live alone compared with older people who live with somebody (171). The relationship between loneliness and poor health goes both ways since people with poor health are also more likely to often feel lonely (171).

The percentage of older people (aged 65 years and over) living alone in Hong Kong has increased in recent decades, as shown in the Figure 6.2. In 1996, 11.4 percent of older people lived alone, rising to 15.6 percent in 2018 (172). The number of households with a single elderly person grew by more than 50 percent between 2006 and 2016, from 98,829 to 152,536 (173).

**Figure 6.2 Percent of older people aged 65 and over living alone, Hong Kong, 1996–2018**



*Source: Social Indicators of Hong Kong (172).*

Studies in Hong Kong have shown inequalities in the feeling of loneliness among older people. Researchers conducted a study published in 2021 that, albeit with a small sample of 143 people aged 65 and over, indicated some relevant associations between certain socioeconomic and demographic factors and loneliness. Older people living alone, with low economic status and who have poor IADL (a measure of how well someone can perform ‘instrumental activities of daily living’), had a higher risk of loneliness than those without those characteristics (174). Those with insufficient resources to meet their daily needs also felt lonelier. Single and divorced older people also reported a higher level of loneliness than those who were married. Finally, those who lived in residential neighbourhoods felt less lonely than those living in more business-oriented ones (174).

Research specific to Hong Kong has suggested that older parents report higher life satisfaction when they receive emotional support from their adult children, or when there is a reciprocal exchange, while for financial support the highest levels of satisfaction were reported by older parents who gave financial support, rather than received

it, felt that the support was reciprocal, or had no exchange of financial support at all. In other words, older people felt satisfaction in being able to provide financial support for their adult children and in receiving and exchanging emotional support in return (175). This is indicative of the importance of financial security in addition to and adequate level of disposable income to the life satisfaction of older people as well as to younger generations.

Older parents were also less satisfied with their lives when they had no exchange of support in daily living with their adult children, but once they did have such an exchange, it mattered less who was supporting whom (175). This may be suggestive of the benefits of regular contact with family for avoiding loneliness and improving general wellbeing.

The government has put in place measures to increase digital literacy and access to smartphones among older people and has prioritised applicants with older family members for subsidised and public housing, but there is no targeted policy to address the social isolation of older people in Hong Kong (176).

## SUICIDE AMONG OLDER PEOPLE

Suicide is a complex phenomenon. It is rarely possible to trace suicidal behaviour to one singular cause. There are social determinants of suicide, and factors in wider society affect trends in suicide (177) (178) (179). There are also some associations with deprivation and lower socioeconomic position.

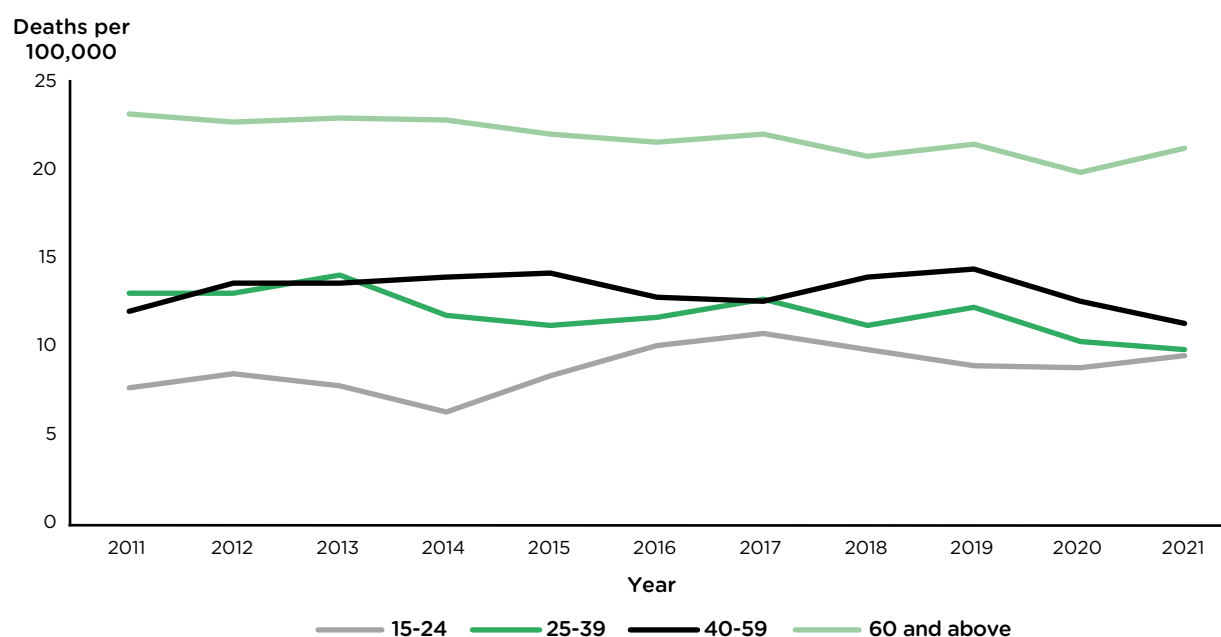
Globally, suicide rates are higher among people aged 70 years and older, although suicide ranks higher as a cause of death among young people as they are less likely to die from other causes (180). Suicide is a particular concern among older people in Hong Kong. The suicide rate of Hong Kong people aged 60 and over was 19 per 100,000 in 2020, which is much higher than the all-age average of 12 per 100,000 in Hong Kong (181).

Using a different age range and not directly comparable, data from the Global Burden of Disease study in 2017

indicated a suicide mortality rate of 27.5 per 100,000 in people aged 70 and over globally (183). In OECD countries, suicide rates for all ages vary from 24.1 in Korea to 14.6 in Japan, 14.1 in the US and 8.4 in the UK, for example (183).

Analysis of suicides in Hong Kong between 1976 to 2015 has shown that the over-65s had the highest rates of suicide throughout the period. Suicide rates within age groups fluctuated, with the highest overall rate, in 2003, believed to be driven by a sharp rise among working-age men in the context of a period of severe economic turmoil (184). More recent analysis shown in Figure 6.3 from the The Hong Kong Jockey Club Centre for Suicide Research and Prevention (CSRP) shows that although people aged 60 and over continue to have a higher rate than younger age groups, they experienced a decreasing trend between 2011 and 2021. In contrast, the 15-24 age group has shown an increasing trend since 2014 (181).

**Figure 6.3 Suicide rates per 100,000 population at ages 15 and over by age group in Hong Kong, 2011-2021**



*Source: The Hong Kong Jockey Club Centre for Suicide Research and Prevention (181).*

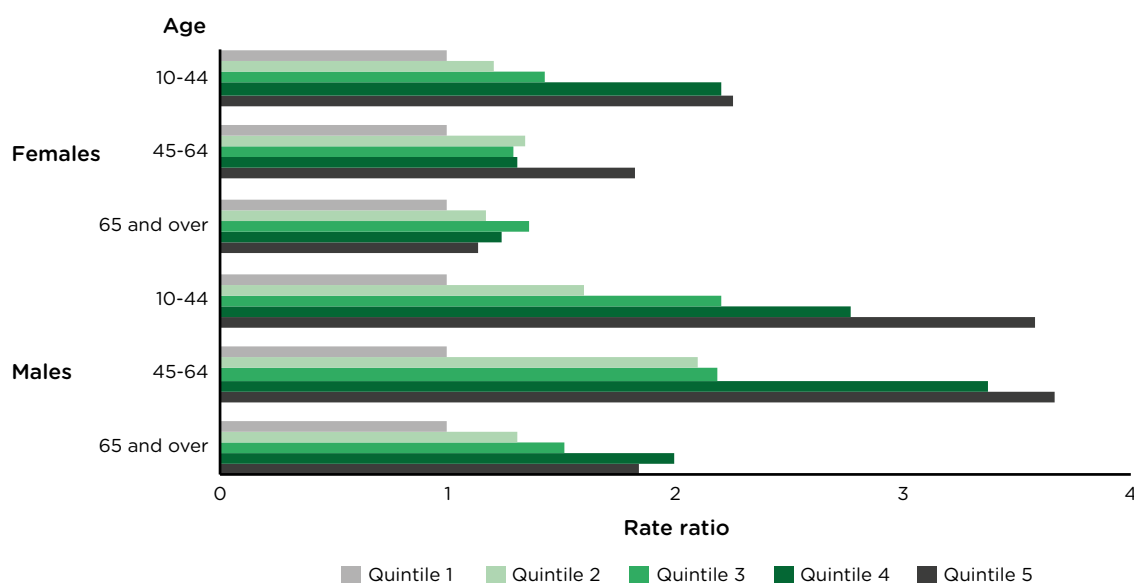
*Note: Data for 2021 is an estimated number based on data from the Coroner's Court up to 31st of July 2022.*

Further analyses have attempted to ascertain how far changes in suicide rates are due to cohort effects – that is, due to different levels of suicidality among different generations, separate from the effects that are simply due to age. One study found that the risk of suicide mortality had increased steadily for men born since 1961, but found no such pattern for women, whose risk had remained static since the 1941 birth cohort (185). Furthermore, another study showed that suicide rates were higher in the older cohorts (birth year 1900–1930) in Hong Kong, indicating that the high suicide rates among the elderly could be the result of cohort

effects and may disappear when these older cohorts are deceased (186).

Research in Western countries has shown higher suicide rates in inner cities and deprived areas than in other geographical and wealthy areas. Studies in Hong Kong have found there is a socioeconomic gradient in suicide, although it is more marked in younger than older populations, as shown in Figure 6.4. Among males aged 10–44 and 45–64 years in the most deprived area quintile, suicide rates were more than three times higher than those in the least deprived quintile (187).

**Figure 6.4 Rate ratios<sup>1</sup> of suicide by area quintile<sup>2</sup> - compared to quintile 1 (least deprived), Hong Kong, 2005–10**



Source: Hsu et al. (2015) (187).

**Note:**

1. Rate ratios measure the relative likelihood of suicide for different income levels compared to quintile 1 (the least deprived quintile). The higher the rate, the higher the likelihood of suicide.
2. Area quintiles are based on a deprivation index derived from a factor analysis based on the following 14 socioeconomic characteristics of 1,639 large street blocks (LSB) in Hong Kong, extracted from the 2006 Census: the proportions of: i) single-person households; ii) people whose residences were different from those five years ago (an indicator of population mobility); iii) unmarried adults; iv) divorced or separated adults; v) lone-parent households; vi) households not owner occupied; vii) overcrowded households (i.e. households with more than one person per room); viii) unemployment rate; ix) people aged 15 years or more with secondary education or below; x) adults with non-professional jobs (i.e. non-professional, non-managerial, non-administrative jobs); xi) median household income; xii) households with low income (i.e. income lower than the 50 percent of median household income); xiii) Gini coefficient; and xiv) households living in public housing.

A study of older people showed that a current diagnosis of major depression greatly increases the risk of attempting suicide and that there are other important health-related factors that also increase this risk, such as a poorer function of self-care and suffering from arthritis. Living with children decreases the risk (188). Living a greater distance from services –including recreational, resources providing daily necessities (such as convenience stores, markets and supermarkets) and community services – has also been found to be associated with higher suicide rates among older people in Hong Kong in an ecological study from 2020 (189).

International media became focused on Hong Kong after several cases of suicides among older people become known during the COVID-19 pandemic and drew attention to issues of isolation due to social distancing measures and the closing of centres and recreational facilities for the elderly (190). According to the organisation Samaritan Befrienders Hong Kong, there were 438 suicides among people aged 60 and over in 2020, the highest number of suicide deaths in this age group since 1973 (191).



## USE OF HEALTHCARE SERVICES AT THE END OF LIFE

There is evidence of socioeconomic inequalities in the use of hospital care at the end of life in Hong Kong. Comprehensive Social Security Assistance Scheme (CSSA) recipients, who are amongst the financially worst-off in Hong Kong, used Accident and Emergency (A&E) services 1.29 times more than non-recipients in the last year of life (data collected between 2004 to 2014). CSSA recipients and residents living in homes for the elderly were more likely to be admitted to hospital during their last year and to stay longer when admitted (192).

The greater use of hospital care and emergency services by people in more socioeconomically disadvantaged positions may be due to a general worse level of health when approaching the end of life caused by inequality experienced throughout the life course. Moreover, reflecting on the findings of this study, the authors admit that the fact that poorer people use these services more in the last year of life does not necessarily imply that the system of care is ameliorating inequalities, since

international evidence suggests that increased hospital admissions and use of A&E at this stage of life might be indicative of a lack of appropriate community services.

Given that primary care in Hong Kong is predominantly private and even subsidised primary care has co-payments, while hospital care is publicly funded, it is likely that residents on low incomes make greater use of free hospital resources like A&E due to a lack of access to primary care, which the authors argue could be acting to mitigate inequalities arising from this lack of access. However, more studies are needed to understand the impact of this dual system on inequalities in the quality of care in the last year of life. It is worth noting that end-of-life care in hospital is the norm in Hong Kong, where 90 percent of deaths take place in hospital (193).

Lower health literacy and reduced access to other community services and resources that can keep older people out of hospital may also contribute to their increased use of hospital care.



## 6B. NEIGHBOURHOODS AND HEALTH IN OLDER PEOPLE

The neighbourhoods in which people live are important influences on their health and wellbeing and can be determined largely by their socioeconomic position. Neighbourhoods are important across the life course and young children and older people spend a particularly large proportion of their lives within their local neighbourhoods. We will address this issue again in the next report of this series, covering the whole range of impacts that the quality of neighbourhoods can have for people throughout their lives.

Neighbourhoods that offer a range of amenities and green spaces, that are walkable and accessible to those with mobility limitations, and that encourage community cohesion, are supportive of good health in older age. Although the most important interventions to reduce inequality and deprivation may come at an individual level, there is work to be done at a neighbourhood level to ensure that the structure of these communities supports health.

There is evidence that loneliness can be improved by making it easier for older people to get out and about in their local neighbourhoods. One study in Hong Kong conducted in 2017 found that Chinese adults aged over 60 who rated their neighbourhoods as more walkable also reported lower scores for loneliness as well as higher scores for happiness and life satisfaction than those who lived in less walkable environments (194).

There is also research evidence with data from 2009 to 2011 to show that the prevalence of dementia and levels of cognitive impairment, vary by neighbourhood in Hong Kong, being more prevalent in poorer neighbourhoods.

This research suggested that areas with greater library accessibility were protective of cognitive function and that more walkable neighbourhoods were associated with a lower risk of dementia, in part through encouraging physical activity (149). Other research has suggested that higher neighbourhood collective efficacy – where there is social cohesion among neighbours and willingness to intervene on behalf of the common good – is protective against depressive symptoms and moderates the effects of deprivation on individuals' increased risk of depression (148) (195).

Another study with people aged over 60 also found that a greater sense of community correlated with better self-rated health. It found that an increased sense of community intensified the association between lower educational attainment and worse self-rated health: the greater the sense of community, the more likely that those with lower education were to report poor health. This raises the possibility that policies that improve community cohesion may improve health overall but inadvertently widen the health gap – or at least appear to (143).



# CHAPTER 7

## HOUSING AFFORDABILITY

How affordable housing is has an impact on all age groups and contributes significantly to health and health inequalities. Unaffordable housing leads to higher rates of poverty, stress, poor health and associated impacts on critical social determinants of health. In our previous report, we described how as one of the most densely populated places in the world, Hong Kong suffers from severe housing unaffordability, housing-related poverty and overcrowding. In 2020, the affordability ratio of Hong Kong was the highest in the world at 20.7, meaning that the median cost of a dwelling in Hong Kong is 20.7 times the annual median pre-tax household income. In comparison, the ratios were 8.6 in London, 5.9 in New York and 4.7 in Singapore (1).



There is evidence of an association between housing affordability and poorer self-rated health, physical conditions, and mental health in Hong Kong (1). A study in 2019 found that the less affordable housing was in Hong Kong, the poorer physical and mental health was. Relative deprivation in terms of necessities (the ability of respondents to afford items considered to be essential to most adults in Hong Kong) had a mediating role between the affordability of housing and health: deprivation mediated 34 percent of the impact of housing unaffordability on physical health and 16 percent of the impact on mental health.

The study concluded that tackling the problem of unaffordable housing would be a means to improve the health of Hong Kong's population. A further effect of high housing costs is to reduce the money available for other things that can contribute to good mental and physical health, including nutritious food, socialising, travel costs for work and education, and other essential household items (1).

In Hong Kong, only 51 percent of households live in homes that they own themselves, less than some other advanced economies including South Korea (59 percent), the US (63 percent), the EU27 (69 percent), Japan (61 percent) and Singapore (90 percent). Between 2004 and 2019 the price of a flat increased by 391 percent (196). Price rises have been seen across housing types: between 2006 and 2013, the average price for a small residential unit increased by 188 percent while the median monthly household income only increased by 30 percent, putting home ownership further beyond the reach of many working families (40).

These changes have affected the demographics of home ownership in Hong Kong. In 1997 22.1 percent of owner-occupier families were headed by a person aged under 35, but by 2019 this had fallen to 7.6 percent. Conversely, the percentage of people aged 60 and over among owner-occupiers grew from 21.4 percent to 41.2 percent (196). While some of this change is related to the ageing

population of Hong Kong, it also suggests that home ownership moved out of reach for many younger people.

In our previous report, we also explained that the government is heavily involved in the housing market with close to 50 percent of the population living in public housing (1). Rent for public housing is subsidised and there is a Rent Assistance Scheme which provides rent relief to those in public rental housing who are facing financial difficulties. This scheme offers 25 percent or 50 percent rent reductions to eligible households. However, the average waiting time for public housing in Hong Kong was around 5.8 years as of June 2021, indicating a severe shortage of such housing. At the same time, the share of public expenditure on housing halved to 5 percent over the past 22 years in 2019-2020 (1).

In addition to the importance of affordable and non-crowded accommodation for health, inequalities in the ability to get on the 'housing ladder' perpetuate a wealth gap. From 1997 to 2019, the market value of private residential properties in Hong Kong was 4.2 times greater than GDP (compared with 1.6 times greater than GDP in the US). When property is then passed on as inheritance, disadvantage can be perpetuated into the next generation, and this relates to the perpetuation of health inequalities in Hong Kong (196).



# CHAPTER 8

## CONCLUSIONS AND THE WAY FORWARD



**In this report, the second in our series on health inequalities in Hong Kong, we have provided an overview of health inequalities across the life course, with a focus on those social determinants of health that are key to explaining unfair differences in health among different socioeconomic groups. These are some of the key messages of this report:**

- There are socioeconomic inequalities in early child development in Hong Kong. These will give rise to inequalities in health in later life. The government has implemented policies to improve early childhood education and care, which need to be evaluated.
- There are inequalities in reading attainment among more and less privileged children at age 15, although these differences are lower in Hong Kong than the OECD average.
- Adolescence is a crucial period for mental health and there is a social gradient in the life satisfaction and self-rated health of adolescents in Hong Kong. Young adults have high levels of psychological distress.
- It appears likely that the rate of mental health problems for adolescents and university students has increased, related to the effects of the COVID-19 pandemic and social unrest.
- Many workers in Hong Kong are required to work very long hours, particularly those in low-paying sectors. This will worsen these individuals' physical and mental health and increase inequalities.
- Older people from lower socioeconomic backgrounds feel less well, experience more chronic disease, have less of their life free of impairment and suffer from higher rates of depression compared with those from higher socioeconomic backgrounds.
- Loneliness is an issue for many elders in Hong Kong and there are indications that this will worsen in the future, given the increasing percentage of older people living alone.
- Suicide rates among older people are much higher than in the rest of the population.

Based on the findings and observations in this report, we make the following six recommendations to reduce health inequalities in Hong Kong:

**RECOMMENDATION**

**1**

The government should work with organisations and industries to ensure more generous parental leave so that parents can spend time with their children at this crucial time of their lives and can share this time more equally.

**RECOMMENDATION**

**2**

It is important that all young children can access good quality pre-school education without marked inequalities in provision between families who can pay higher fees and spend more on preparing children for the application process and the rest. The government should monitor and invest to ensure that each child has an opportunity for quality learning and care.

**RECOMMENDATION**

**3**

The government should use the results of the ongoing mental health prevalence surveys to understand and inform investment and actions to improve conditions in the social determinants of mental health and to reduce socioeconomic inequalities in the prevalence of mental health. These surveys should be conducted regularly.

**RECOMMENDATION**

**4**

The government should invest in mental health and wellbeing services to support the population to have good mental health and wellbeing.

**RECOMMENDATION**

**5**

Businesses should consider the benefits to ensure all workers have decent working conditions, in particular that they enjoy their right to rest, leisure and family life. The government should consider putting in place stronger regulations regarding working time.

**RECOMMENDATION**

**6**

The government together with the voluntary sector must take action to improve social and environmental determinants of health for older people and enhance access to everyday services and community services for the more disadvantaged, and put in place policies to tackle loneliness on a large scale.

Subsequent reports will examine other important health equity topics, including socio-environmental factors, existing services and public policies, and recommendations on strategies for achieving health equity. The final report will address the key question – why does Hong Kong have the longest life expectancy in the world?

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