



Cancer Incidence in Hong Kong

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Overview

The Hong Kong Cancer Registry ("the Registry") was established in 1963 as a population-based cancer registry. We compile reports on cancer statistics using demographic, morphologic and histologic data collected from medical institutions in Hong Kong in strict accordance with the Personal Data (Privacy) Ordinance.

The Registry is a full member of the International Association of Cancer Registries (IACR) under the auspices of WHO. Our data quality meet the standard of IACR. Together with the Shanghai Cancer Registry, we are the first in China to have our results accepted and published in the "Cancer in Five Continents" since its 4th edition in 1982.

As cancer reporting is not mandatory by law in Hong Kong, collecting clinical data is both labour intensive and resource demanding. The Registry annually collects over 200,000 episodes of cancer for meticulous matching and checking to come up with the reported figures. Over the years with the aid of computer technology, we have reduced the reporting lag time to 24 months by releasing the 2004 data in December 2006. Compared to other cancer registries in the world, our efficiency is already above par despite resource constraint.

Incidence figures are important in public health. Our strength lies in the good quality data accumulated over the past quarter century, which, together with the population figures regularly updated by the Census of the Government, form the basis of all our calculations. Hence we are able to show trends with reasonable validity to guide health care service development and epidemiological research.

Incidence data

In 2004, a total of 12,206 men and 10,317 women were diagnosed with cancer. In the same period, 7,183 men and 4,608 women died of the disease. The number of new cancer cases in Hong Kong is rising by 2% per year. The cumulative rates up to age 75 were 28.4% for males and 20.3% for females. Thus 1 in 4 men and 1 in 5 women would develop a cancer by age 75.

The ranking of different cancers is of interest to the media and public. Over the years the cancer pattern is following the footsteps of the developed countries in the West, probably due to changes in socio-economic

factors like ageing population, urbanisation and adoption of western lifestyle. In men, the commonest cancers are from lung, colorectum, liver, prostate and nasopharynx (Table 1). Colorectal cancer overtook liver cancer to become the second commonest cancer in the mid-1990s. Prostate cancer was not in the league of the top ten in earlier period but has also become increasingly common. In women, cancers of the breast, colorectum, lung, cervix and corpus uteri are the leading types. Breast and colorectal cancers replaced lung cancer to become number one and two, respectively, since the mid-1990s. Corpus cancer has also overtaken stomach cancer in ranking.

The age-specific rates vary widely among cancers. Knowing the age-specific rates, or the changes of the rate with time, improves clinical judgment, helps service planning and raises public awareness. For instance, the overall age-specific incidence rate in female rises more rapidly than that of males from age 20 until age 50 (Fig. 1a). Thereafter, the incidence in males increases steeply. The female predominance in the 20 to 50 year age group is mainly due to the high incidence of breast and gynaecological cancers in middle-aged women.

Calculated from age-specific rates, the age-standardised rates allow fair comparison of incidence rates not only in different populations but also within the same population but in different times. Studying the trends in age-standardised rate forms the basis of epidemiological studies. In 2000-2004, the age-standardised incidence rate (adjusted to the 2000 world standard population) for all cancers combined was 292.5 per 100,000 for men while for female, it was 216.0 per 100,000. Compared to other developed countries, Hong Kong has a relatively high incidence rates in Asia, approaching that of the West. (Fig. 2)

Epidemiology of the principal cancers

The time trend of age-standardised incidence rates for all cancers combined shows that despite the rising numbers or crude rates, the cancer risks have been falling steadily over the years (Fig. 3), with a few exceptions like breast, colorectal, corpus, ovarian and prostate cancers. The incidence of traditional cancers such as nasopharynx, cervix and stomach is falling (Fig. 4). Overall, the five leading cancers are the lung, colorectum, breast, liver and stomach, which altogether accounted for over 55% of all new cases in 2000-2004.



Table 1. Ten most common cancers in different 5-year periods, 1985-2004

| Male | | | | | | | | | | | |
|------------------------|---------------|--------------|------------------------|---------------|--------------|------------------------|---------------|--------------|------------------------|---------------|--------------|
| 1985-1989 | | | 1990-1994 | | | 1995-1999 | | | 2000-2004 | | |
| Site | No. / year | ASR |
| Lung | 2,178 | 88.3 | Lung | 2,408 | 83.9 | Lung | 2,519 | 71.5 | Lung | 2,694 | 65.4 |
| Liver | 1,082 | 41.7 | Liver | 1,198 | 40.2 | Colorectum | 1,576 | 44.7 | Colorectum | 1,873 | 45.6 |
| Colorectum | 982 | 40.8 | Colorectum | 1,187 | 41.8 | Liver | 1,265 | 35.4 | Liver | 1,262 | 30.8 |
| Nasopharynx | 800 | 28.9 | Nasopharynx | 785 | 24.8 | Nasopharynx | 819 | 21.9 | Prostate | 835 | 20.1 |
| Stomach | 590 | 24.1 | Stomach | 586 | 20.7 | Stomach | 626 | 18.0 | Nasopharynx | 725 | 17.4 |
| Oesophagus | 464 | 18.2 | Oesophagus | 440 | 15.0 | Prostate | 460 | 13.6 | Stomach | 662 | 16.1 |
| Bladder | 426 | 18.3 | Bladder | 424 | 15.3 | Bladder | 450 | 13.0 | Bladder | 487 | 11.8 |
| Larynx | 254 | 9.9 | Non-Hodgkin's lymphoma | 271 | 9.2 | Oesophagus | 409 | 11.6 | Oesophagus | 391 | 9.6 |
| Non-Hodgkin's lymphoma | 254 | 9.8 | Prostate | 255 | 9.9 | Non-Hodgkin's lymphoma | 317 | 9.2 | Non-Hodgkin's lymphoma | 334 | 8.5 |
| Leukaemia | 201 | 7.5 | Larynx | 231 | 7.9 | Leukaemia | 206 | 6.2 | Non-melanoma skin | 249 | 6.1 |
| All sites | 9,148 | 365.8 | All sites | 9,746 | 336.6 | All sites | 10,951 | 311.5 | All sites | 11,889 | 292.5 |
| Female | | | | | | | | | | | |
| 1985-1989 | | | 1990-1994 | | | 1995-1999 | | | 2000-2004 | | |
| Site | No. / year | ASR |
| Lung | 1,095 | 37.7 | Lung | 1,154 | 34.7 | Breast | 1,585 | 42.5 | Breast | 2,071 | 46.8 |
| Breast | 964 | 36.5 | Breast | 1,152 | 37.8 | Colorectum | 1,306 | 32.6 | Colorectum | 1,496 | 31.9 |
| Colorectum | 872 | 30.6 | Colorectum | 1,062 | 32.7 | Lung | 1,182 | 28.8 | Lung | 1,279 | 26.6 |
| Cervix | 494 | 18.6 | Cervix | 468 | 15.3 | Cervix | 469 | 12.6 | Cervix | 434 | 9.8 |
| Stomach | 356 | 12.4 | Liver | 355 | 11.0 | Liver | 390 | 10.1 | Corpus uteri | 414 | 10.0 |
| Liver | 306 | 10.8 | Stomach | 346 | 10.4 | Stomach | 382 | 9.4 | Stomach | 383 | 7.9 |
| Nasopharynx | 298 | 11.4 | Nasopharynx | 298 | 9.9 | Nasopharynx | 320 | 8.5 | Ovary | 377 | 9.0 |
| Ovary | 221 | 8.2 | Thyroid | 241 | 7.8 | Ovary | 300 | 8.3 | Liver | 361 | 7.9 |
| Corpus uteri | 203 | 7.8 | Ovary | 235 | 7.7 | Corpus uteri | 296 | 8.5 | Thyroid | 325 | 7.8 |
| Thyroid | 198 | 7.1 | Corpus uteri | 218 | 7.5 | Thyroid | 288 | 7.8 | Non-melanoma skin | 303 | 5.9 |
| All sites | 6,929 | 249.2 | All sites | 7,458 | 235.2 | All sites | 8,678 | 224.7 | All sites | 9,796 | 216.0 |
| Both | | | | | | | | | | | |
| 1985-1989 | | | 1990-1994 | | | 1995-1999 | | | 2000-2004 | | |
| Site | No. / year | ASR |
| Lung | 3,273 | 61.1 | Lung | 3,561 | 58.0 | Lung | 3,701 | 49.2 | Lung | 3,974 | 45.1 |
| Colorectum | 1,853 | 34.8 | Colorectum | 2,249 | 36.8 | Colorectum | 2,882 | 38.3 | Colorectum | 3,369 | 38.4 |
| Liver | 1,388 | 26.0 | Liver | 1,553 | 25.6 | Liver | 1,656 | 22.8 | Breast | 2,086 | 24.0 |
| Nasopharynx | 1,098 | 20.5 | Breast | 1,158 | 18.9 | Breast | 1,593 | 21.3 | Liver | 1,623 | 19.2 |
| Breast | 978 | 18.5 | Nasopharynx | 1,082 | 17.6 | Nasopharynx | 1,140 | 15.4 | Stomach | 1,045 | 11.8 |
| Stomach | 946 | 17.8 | Stomach | 932 | 15.2 | Stomach | 1,008 | 13.4 | Nasopharynx | 998 | 11.8 |
| Bladder | 592 | 11.1 | Bladder | 571 | 9.3 | Bladder | 605 | 8.0 | Prostate | 835 | 9.2 |
| Oesophagus | 578 | 10.7 | Oesophagus | 552 | 9.1 | Non-Hodgkin's lymphoma | 556 | 7.6 | Bladder | 643 | 7.1 |
| Cervix | 494 | 9.2 | Non-Hodgkin's lymphoma | 480 | 7.9 | Oesophagus | 508 | 6.9 | Non-Hodgkin's lymphoma | 585 | 7.0 |
| Non-Hodgkin's lymphoma | 438 | 8.1 | Cervix | 468 | 7.6 | Cervix | 469 | 6.3 | Non-melanoma skin | 552 | 6.1 |
| All sites | 16,077 | 300.4 | All sites | 17,205 | 281.7 | All sites | 19,630 | 264.8 | All sites | 21,685 | 251.7 |

ASR = Age-standardized rate is calculated based on the 2000 world standard population and expressed per 100,000.

Lung cancer

Lung cancer has long been the most common cancer in Hong Kong, ranking first in men and third in women. It represents over 18% of total malignant neoplasms registered each year. Like many other cancers, its incidence is rising continuously after age 50 (Fig. 1b). Environmental factors particularly smoking are responsible in men. Compared with other countries, the rate of lung cancer in Hong Kong women exceeded those recorded in most other registries and was also high in men. Nevertheless, the age-standardised incidence rates are decreasing in both genders (Fig. 4). A previous study¹ showed that the decline occurred mainly in squamous cell and small cell carcinomas, which are closely associated with smoking. This pattern corresponds to the decline in smoking prevalence in Hong Kong. Nowadays, the most common histological type is adenocarcinoma, particularly in women.

Colorectal cancer

Colorectal cancer was the most rapidly increasing in terms of numbers among all cancers in Hong Kong over the last 20 years. The age-specific rate rates in both sexes are nearly identical before 50 years. Then the rate rises sharply afterwards to reach around 400 per 100,000

for men and 280 for women beyond age 70 (Fig. 1c). The age-standardised rates, however, remained stable in the past decade (Fig. 4). Further analysis of the time trends by age-specific rate showed that the biggest climb was found only in the groups aged 60 and over, while those of age 30 to 59 recorded only a small change or even a decline. Thus the common perception that people are getting colorectal cancer at younger age is untrue. The predominant histological type is adenocarcinoma (75%). Stage at diagnosis is 8.6% stage I, 25.9% stage II, 29.7% stage III, 20.4% stage IV and 15.3% unknown.

Female breast cancer

Like most Western countries, breast cancer is now the leading women cancer in Hong Kong. In 2004, there were 2,200 new cases diagnosed. Breast cancer occurs in women at an earlier age compared with other cancers. The age-specific incidence rises dramatically between the age groups 20-49 and thereafter remains stable (Fig. 1d). The age-standardised rates are also increasing since the mid-1990s (Fig. 4b). Factors other than ageing population such as westernised lifestyle and "Baby boom" generation" could account for such rise. The most common histological type is invasive ductal carcinoma (75%). Stage at diagnosis is 24.5% stage I, 37.4% stage II, 15.4% stage III, 4.0% stage IV and 18.7% unknown.



Liver cancer

The number of liver cancer is stable over the years. Its incidence rises sharply after the age of 40 and continues into the older age group (Fig. 1e). The age-standardised incidence rates began to drop significantly in the mid-1990s for both genders (Fig. 4). As hepatitis B virus is the main causative agent in Hong Kong, the incidence is

expected to drop further in a few decades after the launching of the vaccination programme against hepatitis B at birth in 1988. About 85% of the cases are hepatocellular carcinoma.

Stomach cancer

Stomach cancer remains the number 5 common cancer despite its falling age-standardised incidence over the past two decades (Fig. 4). Its incidence starts to rise after 40s and continues into the older age group (Fig. 1f). The most common histological type is adenocarcinoma.

Conclusion

Study on the epidemiological trend of cancer incidence is essential to evaluate and monitor changes in population lifestyle, environmental risks and cancer burden over time. The Registry is a rich source of information for these studies. The Registry was an incident-only registry in the past and is now transforming to a full registry, initially by collecting staging and individual follow-up information. Our future success counts on the support of all clinicians in Hong Kong. Special thanks must be given to all medical institutions, public and private, which have been so cooperative to facilitate our data collection. In return we have developed our own website at <http://www.ha.org.hk/cancereg>, making the data accessible to all the contributors, the professionals and the public. It is the Asian's first web-based query and reporting system to disseminate cancer statistical and epidemiological information for the purpose of epidemiological research and education. It has always been the policy of the Registry to provide free access of relevant data to everybody.

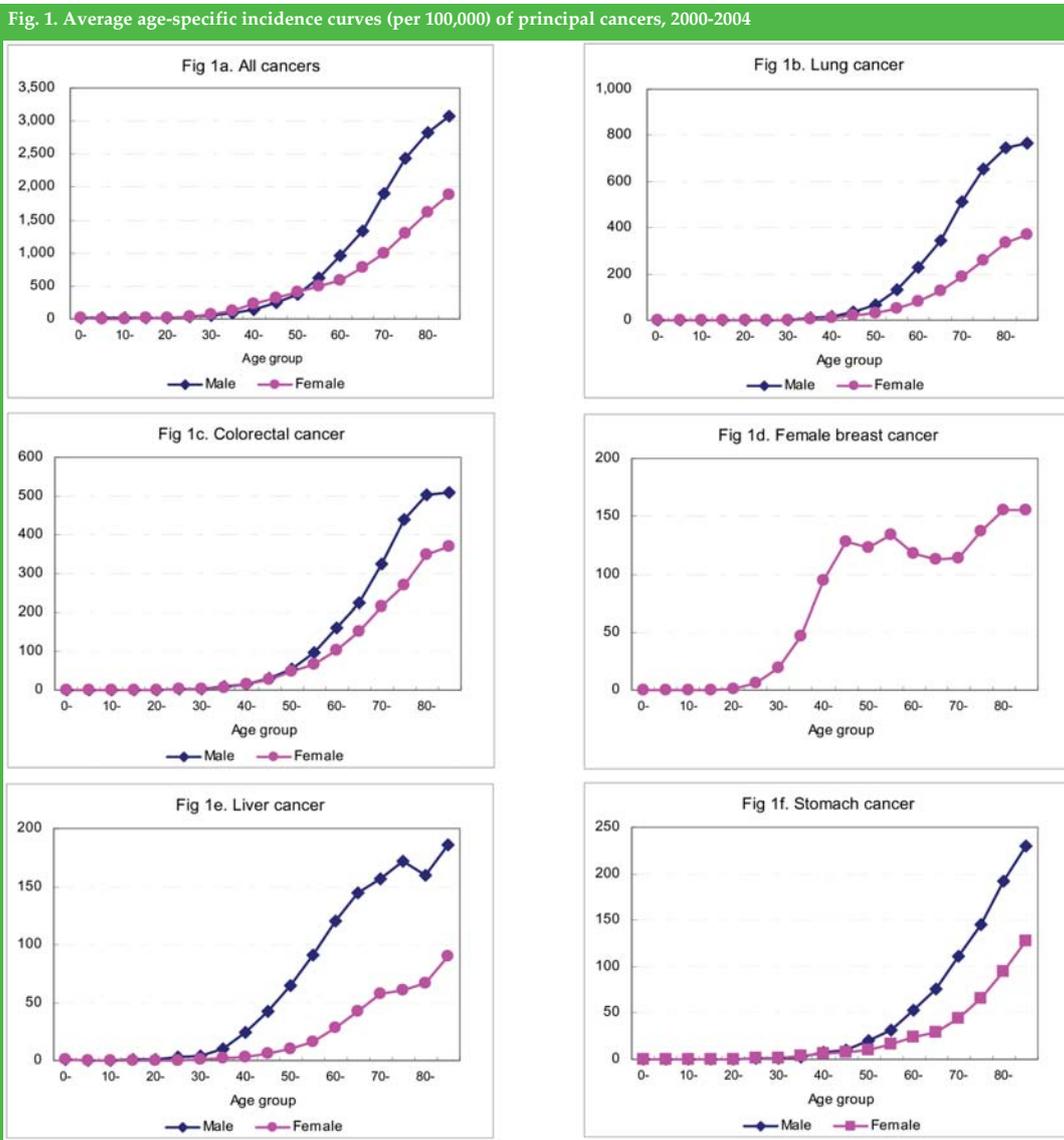
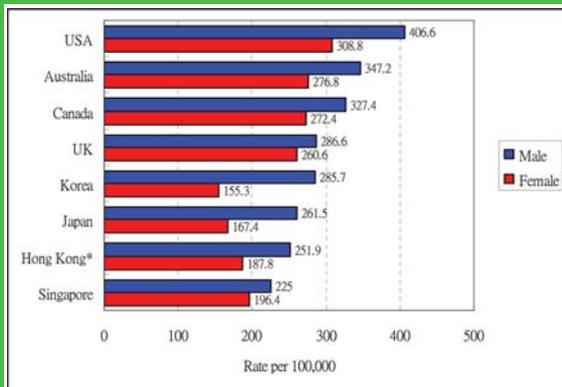




Fig. 2. World age-standardized incidence for selected countries in 2002 (All cancers except non-melanoma skin)



Source: Globocan 2002: Cancer Incidence, Mortality and Prevalence Worldwide, IARC, WHO
 *Hong Kong Cancer Registry 2002 figures
 Rates are standardized to the 1966 world standard population.

Fig. 3. Trends in crude and age-standardized (ASR) incidence rates of all cancers in Hong Kong, 1985-2004

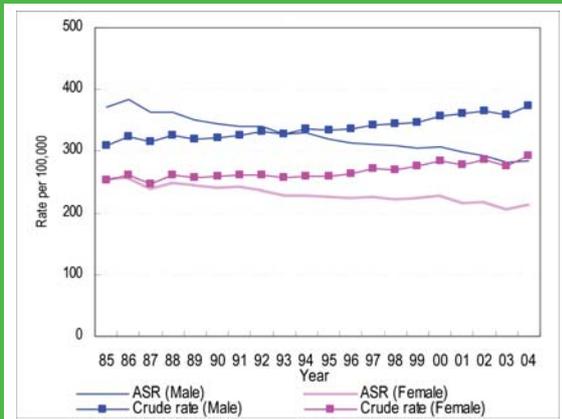


Fig. 4a. Trends in age-standardized incidence rates for leading cancers in Men

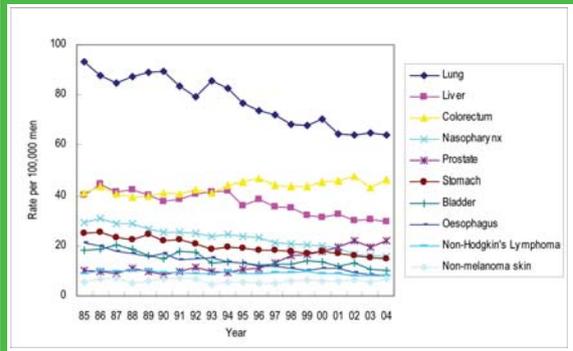
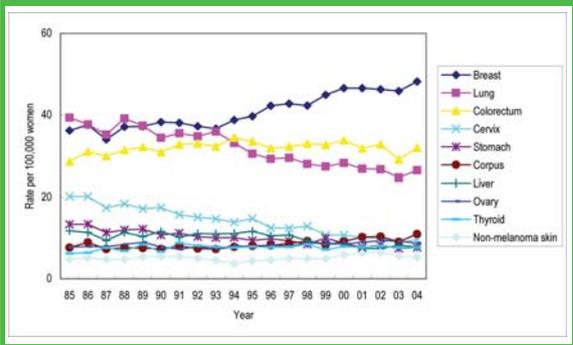


Fig. 4b. Trends in age-standardized incidence rates for leading cancers in Women



References

1. Au JS, Mang OW, Foo W, Law SC. Time trends of lung cancer incidence by histologic types and smoking prevalence in Hong Kong 1983-2000. *Lung Cancer* 2004;45(2):143-52.

Upcoming Certificate Courses of the Federation of Medical Societies of Hong Kong

| Date | Course No | Course Name | Co-organiser | Target Participants |
|---------------------------|-----------|---|---|---|
| 25 Aug 2007 | C126 | Certificate Course in Nutrition | Hong Kong Nutrition Association | General Public |
| 3 Oct 2007 - 7 Nov 2007 | C124 | Certificate Course on Infectious Disease | The Hong Kong Society for Infectious Diseases | General Practitioners & Paramedic |
| 8 Oct 2007 - 19 Nov 2007 | C122 | Enhancing Medical Practice: The Role of Psychotherapy in Promoting Physical and Mental Health | Psychotherapy Society of Hong Kong | Medical & Health Professionals & Practitioner |
| 20 Oct 2007 - 20 Nov 2007 | C118 | Certificate Course on Ophthalmology | The Hong Kong Ophthalmological Society | General Practitioners & Paramedic |