Overview of 2012 Hong Kong Cancer Statistics

Cancer Registration in Hong Kong

The Hong Kong Cancer Registry (HKCaR) is a population-based cancer registry, collecting the basic demographic data, information of the cancer site, and histology of all cancer patients from both the public and private medical institutions in Hong Kong. Vast amounts of cancer-related data are collated and loaded each year into a huge database to be validated by various crosschecking procedures via the Cancer Case Audit System, and also by multiple quality control processes commensurate with the recommendations by the International Agency for Research on Cancer (IARC). Once all these necessary procedures are completed, statistics describing the numbers and rates of all types of cancers diagnosed in a calendar year according to age groups and gender will be published on the web on an annual basis.

Since the 1960s, the HKCaR has been providing population-based cancer data for epidemiological research and healthcare services planning in Hong Kong. With the zealous support of healthcare professionals and medical institutions, we have managed to collect high quality cancer data from both private and public hospitals and laboratories. Although reporting of cancer cases by the medical profession is not mandatory, the completeness of registration by the HKCaR is reckoned to be 98% or more. As over 85% of the cases can be morphologically verified, and the proportion of cases based solely on information from death certificates amounts to less than 1% in recent years, the data quality reported by the HKCaR is considered to be of the highest standard according to the IARC's review.

The increasing availability of electronic clinical data in both the public and private hospitals has certainly enhanced our ability to provide more accurate and complete data in a timely fashion to the public, the medical profession and healthcare administrators. To further leverage on current core cancer data the HKCaR has been providing, we are piloting the collection of additional relevant cancer data such as staging, history of receiving various treatment modalities, prognostic factors, and outcomes for selected cancers with a view to better contributing towards cancer control.

A web-reporting tool, Cancer Statistics Query System, provides the user with a platform to access data on incidence and mortality for over 50 cancer sites or groups of cancer since 1983. A series of fact sheets describe statistical summaries and trend of frequently-requested cancer types. Further details are available on our web (http://www3.ha.org.hk/cancereg).

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Major findings in 2012

- Local cancer burden continues to rise, reaching a new record of 27,848 in 2012 (with 850 more cases or increased by 3.1% compared to 2011).

- The five most commonly diagnosed cancers were those of the lung (16.6%), colorectum (16.4%), breast (12.6%), liver (6.4%) and prostate (5.9%). These 5 leading cancers comprised of nearly 60% of all new cancers diagnosed in Hong Kong.

- Among the top 5 cancer sites, prostate cancer had advanced 3 places compared to 2002. Number of new cases of lung, colorectal, breast and prostate cancers saw a substantial rise largely due to ageing and growing population, while that of liver cancer showed a relatively small increase.

Leading cancer types *(both genders combined)*

Rank	Site	No. in 2012	No. in 2002 *(rank)*
	All sites	**27,848**	**21,861**
1	Lung	4,610	3,941 *(1)*
2	Colorectum	4,563	3,519 *(2)*
3	Breast	3,522	2,076 *(3)*
4	Liver	1,790	1,576 *(4)*
5	Prostate	1,631	912 *(7)*

- During the past decade (2002-2012), the number of new cancer cases in HK rose at an average annual rate of 2.5% whereas the population grew at an annual rate of 0.6%.

- Lung cancer has reclaimed the top spot in the cancer incidence ranking, after being overtaken for the first time in history by colorectal cancer in the previous year, but the difference was only around 1%.

- Compared to the previous year, most of the increase was attributed to the growing number of cancers in women, particularly in cancers of the lung, corpus uteri and breast.

- In 2012, 3,508 women were diagnosed with invasive breast cancer, which increased by 2.6% compared to 2011. There were a further 477 cases of in-situ breast cancer reported during the same period. Since 2002, the number of breast cancer has increased by nearly 70%, significantly higher than the overall average increase of 27%.

- In 2012, cancers of corpus uteri and cervix showed a marked increase in incidences, by 18.2% to 810 cases and 16.9% to 457 cases respectively. A modest increase of 2.1% in ovarian cancers was also observed.

- An increase of 7.7% is observed for men and 24.3% for women on the number of new cases of non-melanoma skin cancers in 2012 (mainly squamous cell carcinomas). Since 2002, number of new cases has increased by almost 50% to 895 cases but the number of deaths from this cancer remained low at an average of 20 cases per year, indicating an overall excellent prognosis of this

cancer.

- Cancer is a leading cause of death in Hong Kong, accounting for 30.5% of all deaths in 2012. Altogether 13,336 died from cancer in 2012 (with 95 more deaths or increased by 0.7% compared to 2011). The number of cancer deaths in HK rose at an average annual rate of 1.4% in the past decade.

Leading cancer deaths *(both genders combined)*

Rank	Site	No. in 2012	No. in 2002 *(rank)*
	All sites	**13,336**	**11,658**
1	Lung	3,893	3,383 *(1)*
2	Colorectum	1,903	1,551 *(2)*
3	Liver	1,505	1,381 *(3)*
4	Stomach	657	620 *(4)*
5	Breast	604	427 *(5)*

- The increase in the number of cancer cases and deaths is primarily the result of an ageing and growing population. As long as the current demographic trends continue, there will be a corresponding proportional increase in the number of new cancer cases and deaths from cancer.

Appendix 1 displays the ten most common cancers and cancer killers by gender in 2012.

Cancer and gender

- More men were diagnosed with cancer (14,267) than women (13,581) in the ratio of 1.05 to 1. This ratio was 1.21 to 1 in 2002.

- More men died from cancer (7,933) than women (5,403) in the ratio of 1.47 to 1.

Cancer and age

- Cancer is primarily a disease of older people. Over 60% of cancers occurred in people over the age of 60.

- Median ages at diagnosis were 68 years in men and 61 years in women.

- Although cancers in children and adolescents (aged 0-19 years) constituted a mere 0.7% of all new cancers, they still carried significant public health importance. On average, about 200 new cancers were diagnosed annually over the past decade, with leukaemia, germ-cell and gonadal cancer, malignant brain tumor and lymphoma being more common. These 4 common types of cancers constituted nearly two-thirds of all cancers occurring in children and adolescents.

- Cancer was more common in women than in men between 20 and 60 years old, mainly due to the relatively high incidence of gender-specific cancers of the breast, cervix, corpus uteri and

ovary. This was most apparent within the age group of 20-44 years, in which the number of cancers was around 2.5 times more common in women than in men.

Appendix 2 displays the relative frequency of the five most common cancers according to gender and age group in 2012.

- Three-quarters of cancer deaths occurred in people aged 60 or older.
- Median ages at death due to cancer were 72 years in men and 75 years in women.

Risk of developing of and dying from cancer before age 75

A person's risk of developing or dying from cancer is dependent on age:

- One in 4 men and 1 in 5 women will develop cancer before the age of 75.
- One in 8 men and 1 in 15 women will die from cancer before the age of 75.

Staging information

Stage at diagnosis is an important measure for determining cancer outcomes. Accessible electronic radiological information obtained from USG, MRI, CT, bone and PET scans can enable us to more accurately stage a higher proportion of cancers. Availability of more complete staging information is definitely conducive to evaluating overall survival according to stage, and understanding of treatment outcome in terms of survival. Stage-specific data for cancers of nasopharynx, colorectum, breast, cervix, corpus uteri and ovary is now available on the web.

Note on the use of data

Numbers of new cases and deaths are important measures of cancer burden imposed on the local healthcare system. As annual random fluctuations can occur, more reliable observation and interpretation of the trends of cancer incidence and mortality can only be made over a longer period of at least 5 years or more.

Any feedback or queries are welcomed. We can be contacted by email at cancereg@ha.org.hk.

Appendix 1: Leading Cancer Sites in 2012

10 Most Common Cancers

Male

Rank	Site	No. of new cases	Relative frequency	Crude incidence rate*
1	Lung	2,940	20.6%	88.4
2	Colorectum	2,564	18.0%	77.1
3	Prostate	1,631	11.4%	49.0
4	Liver	1,364	9.6%	41.0
5	Stomach	684	4.8%	20.6
6	Nasopharynx	595	4.2%	17.9
7	Non-melanoma skin	434	3.0%	13.0
8	Non-Hodgkin lymphoma	432	3.0%	13.0
9	Kidney and other urinary organs except bladder	368	2.6%	11.1
10	Lip, oral cavity and pharynx except nasopharynx	361	2.5%	10.8
	All sites	**14,267**	**100.0%**	**428.8**

Female

Rank	Site	No. of new cases	Relative frequency	Crude incidence rate*
1	Breast	3,508	25.8%	91.8
2	Colorectum	1,999	14.7%	52.3
3	Lung	1,670	12.3%	43.7
4	Corpus uteri	810	6.0%	21.2
5	Thyroid	564	4.2%	14.8
6	Ovary etc.	531	3.9%	13.9
7	Non-melanoma skin	461	3.4%	12.1
8	Cervix	457	3.4%	12.0
9	Stomach	429	3.2%	11.2
10	Liver	426	3.1%	11.1
	All sites	**13,581**	**100.0%**	**355.3**

Both Sexes

Rank	Site	No. of new cases	Relative frequency	Crude incidence rate*
1	Lung	4,610	16.6%	64.5
2	Colorectum	4,563	16.4%	63.8
3	Breast	3,522	12.6%	49.3
4	Liver	1,790	6.4%	25.0
5	Prostate	1,631	5.9%	49.0
6	Stomach	1,113	4.0%	15.6
7	Non-melanoma skin	895	3.2%	12.5
8	Nasopharynx	819	2.9%	11.5
9	Corpus uteri	810	2.9%	21.2
10	Non-Hodgkin lymphoma	804	2.9%	11.2
	All sites	**27,848**	**100.0%**	**389.5**

10 Major Causes of Cancer Deaths

Male

Rank	Site	No. of deaths	Relative frequency	Crude mortality rate*
1	Lung	2,597	32.7%	78.1
2	Colorectum	1,079	13.6%	32.4
3	Liver	1,045	13.2%	31.4
4	Stomach	379	4.8%	11.4
5	Prostate	362	4.6%	10.9
6	Pancreas	287	3.6%	8.6
7	Nasopharynx	255	3.2%	7.7
8	Oesophagus	250	3.2%	7.5
9	Non-Hodgkin lymphoma	197	2.5%	5.9
10	Leukaemia	181	2.3%	5.4
	All sites	**7,933**	**100.0%**	**238.4**

Female

Rank	Site	No. of deaths	Relative frequency	Crude mortality rate*
1	Lung	1,296	24.0%	33.9
2	Colorectum	824	15.3%	21.6
3	Breast	601	11.1%	15.7
4	Liver	460	8.5%	12.0
5	Stomach	278	5.1%	7.3
6	Pancreas	251	4.6%	6.6
7	Ovary etc.	174	3.2%	4.6
8	Non-Hodgkin lymphoma	154	2.9%	4.0
9	Cervix	133	2.5%	3.5
10	Leukaemia	95	1.8%	2.5
	All sites	**5,403**	**100.0%**	**141.3**

Both Sexes

Rank	Site	No. of deaths	Relative frequency	Crude mortality rate*
1	Lung	3,893	29.2%	54.4
2	Colorectum	1,903	14.3%	26.6
3	Liver	1,505	11.3%	21.0
4	Stomach	657	4.9%	9.2
5	Breast	604	4.5%	8.4
6	Pancreas	538	4.0%	7.5
7	Prostate	362	2.7%	10.9
8	Non-Hodgkin lymphoma	351	2.6%	4.9
9	Nasopharynx	329	2.5%	4.6
10	Oesophagus	313	2.3%	4.4
	All sites	**13,336**	**100.0%**	**186.5**

* All rates are expressed per 100,000, and have been revised based on the population benchmark from the results of the 2016 Population By-census. Rates for gender-specific sites are per 100,000 male or female population.

Statistics on the number of deaths are provided by the Census and Statistics Department and Department of Health of HKSAR.

Appendix 2: Relative Frequency of the Five Most Common Cancers by Gender and Age Group in 2012

Male

Age 0-19*

Site	No. of cases	% of all sites
Leukaemia	26	24.5%
Brain and spinal tumors	16	15.1%
Lymphoma	16	15.1%
Germ-cell and gonadal tumors	11	10.4%
Sympathetic nervous system tumor	8	7.5%
All sites	**106**	**100.0%**

Age 20-44

Site	No. of cases	% of all sites
Nasopharynx	130	17.0%
Colorectum	84	11.0%
Liver	69	9.0%
Lung	58	7.6%
Testis	50	6.5%
All sites	**764**	**100.0%**

Age 45-64

Site	No. of cases	% of all sites
Lung	894	17.9%
Colorectum	880	17.6%
Liver	654	13.1%
Nasopharynx	370	7.4%
Prostate	323	6.5%
All sites	**5,006**	**100.0%**

Age 65-74

Site	No. of cases	% of all sites
Lung	826	22.4%
Colorectum	679	18.4%
Prostate	628	17.0%
Liver	332	9.0%
Stomach	170	4.6%
All sites	**3,694**	**100.0%**

Age 75 and Over

Site	No. of cases	% of all sites
Lung	1,162	24.7%
Colorectum	921	19.6%
Prostate	678	14.4%
Liver	307	6.5%
Stomach	241	5.1%
All sites	**4,697**	**100.0%**

Female

Age 0-19*

Site	No. of cases	% of all sites
Leukaemia	27	30.3%
Germ-cell and gonadal tumors	15	16.9%
Carcinomas and eplithelial neoplasms	11	12.4%
Malignant bone tumor	8	9.0%
Brain and spinal tumors	7	7.9%
All sites	**89**	**100.0%**

Age 20-44

Site	No. of cases	% of all sites
Breast	651	36.1%
Thyroid	204	11.3%
Ovary etc.	153	8.5%
Cervix	142	7.9%
Colorectum	105	5.8%
All sites	**1,803**	**100.0%**

Age 45-64

Site	No. of cases	% of all sites
Breast	2,035	35.0%
Colorectum	659	11.3%
Corpus uteri	567	9.8%
Lung	566	9.7%
Ovary etc.	286	4.9%
All sites	**5,807**	**100.0%**

Age 65-74

Site	No. of cases	% of all sites
Breast	415	20.5%
Colorectum	378	18.6%
Lung	321	15.8%
Liver	98	4.8%
Non-melanoma skin	89	4.4%
All sites	**2,027**	**100.0%**

Age 75 and Over

Site	No. of cases	% of all sites
Colorectum	856	22.2%
Lung	733	19.0%
Breast	407	10.6%
Non-melanoma skin	244	6.3%
Stomach	197	5.1%
All sites	**3,855**	**100.0%**

Note: Cases with unknown age are not included in the above table.

The classification of cancers in children and adolescents (0-19 years) is based on the morphology according to the "International Classification for Childhood Cancer 1996, IARC Technical Report No. 29: Lyon, 1996.", rather than the site of tumor.