

# There still a long way to go for cancer registration in China

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Cancer is currently a global issue. Every year, millions of people die of cancer. Cancer is now the top killer of population health in China because of the pollution of the environment, water and air is getting worse day by day, also the food additives and pesticides are overused widespread. In recent years, the cancer incidence and mortality increased rapidly in China. So, it is very important to collect information about cancer cases, cancer deaths, cancer follow-up and survival data at national level for cancer surveillance, intervention evaluation, and policy or decision-making (1).

## Balancing the distribution of cancer registries in China

The impressive progress of cancer registration has been made in China. National Center of Cancer Registration (NCCR) had been approved to set up by Chinese Health Ministry (CHM) in October 2002. There were only 48 cancer registries in China at that time, covering about 73 million people (5.7% of the total population of China in 2000) in 2002. The oldest three registries are Linzhou, Shanghai and Qidong (2). In recent years, the number of cancer registries and covered population has increased rapidly. The total number of cancer registries had increased to 195 and covered more than 13% of the national population in fiscal years 2010 to 2011. In 2012, the number of cancer registries expanded to 222, covering more than 200 million people. At present, there are more than 250 cancer registries covering more than 200 million people (3). The cancer registries have now covered 31 provinces and municipalities of China. The national system registration network has been initially formed.

And now, the distribution of the number of cancer registries is imbalance in China. There are much more qualified registries in the east area of China. The maximum

number in cancer registries list is 27 in Jiangsu province which belongs to the east area of China. The number of cancer registries is relatively insufficient in the west and the middle area of China. It is very important to balance the distribution of cancer registries in China and to promote the number of qualified registries in the west and the middle area of China.

By the way, we still don't know the rules of setting up cancer registries which might support by the statistics theory. It is very possible that two most important factors to set up cancer registries may have been largely overlooked: internal migration and the distribution of environment pollution.

## Concentrating to improve the training for registrars in West China

In terms of the cancer data quality, unfortunately, the total quality of the cancer data submitted by the cancer registries is unsatisfactory. The quality of the cancer data was classified into three categories, in which category A or B were qualified and deemed acceptable, whereas data classified into category D was rejected (3). The cancer data of category A mainly came from cancer registries of Beijing, Shanghai, Jiangsu, Zhejiang, Henan and Hunan provinces; it only covered 19.35% provinces of China. The cancer data of category D came from cancer registries of Guizhou, Tibet, Shanxi, Ningxia, and Hainan provinces; it covered 16.13% provinces of China. The phenomena of missing data are existed as a whole. The provinces of Guizhou, Tibet, Shanxi and Ningxia are all located in the west area of China. It indicates the lack of training opportunities for registrars in the west area of China. The inadequate outputs in terms of cancer data quality are based partially on inadequate inputs. We think that improving cancer data

quality is more important than increasing the number of cancer registries.

### **Lack of cancer data related to ethnic groups**

As we know, China is a multi-ethnic country. People of 56 ethnic groups make up the big family of China. Until now, we cannot find the cancer data related to ethnic groups that submitted by the cancer registries from all 31 provinces and municipalities of mainland China. Generally, divergences in national cultures and traditional habits of ethnic groups may affect the occurrence of cancer. The cancer surveillance data related to ethnic groups has very important value in cancer prevention, control and clinical diagnosis.

### **Evolution characteristics of cancers changing significantly during 2000-2010**

The Chinese cancer burden increased dramatically in the last decade. We are curious to know the evolution of common cancer incidence trend within nearly 10 years in China. In 2000, the top 10 most common cancers of Chinese were lung cancer, liver cancer, gastric cancer, esophageal cancer, colorectal cancer, female breast cancer, leukemia, cervical cancer, nasopharyngeal cancer, and bladder cancer. And the top 10 leading causes of cancer deaths in 2000 (estimated by the survey data from partial provinces of China) were lung cancer, liver cancer, gastric cancer, esophageal cancer, colorectal cancer, leukaemia, female breast cancer, nasopharyngeal cancer, cervical cancer, and bladder cancer in China (4). After a decade, the top 10 most common cancers of Chinese were lung cancer, female breast cancer, gastric cancer, liver cancer, esophageal cancer, colorectal cancer, cervical cancer, corpus uteri cancer, ovary cancer, and cerebral cancer in 2010. And the top 10 leading causes of cancer deaths in 2010 were lung cancer, liver cancer, gastric cancer, esophageal cancer, colorectal cancer, female breast cancer, pancreatic cancer, cerebral cancer, leukaemia, and cervical cancer in China (3).

We are surprised to find by comparison that female breast cancer substantially moved up four places and liver cancer moved down two places in the top 10 most common cancers from 2000 to 2010. Another big change is that corpus uteri cancer, ovary cancer, and cerebral cancer were first placed among the top 10 most common cancers. In the top 10 leading causes of cancer deaths, leukaemia moved down three places, nasopharyngeal cancer and bladder cancer were absent. We advocate strongly to concern for

women's cancer problems.

As the special administrative region of China, Hong Kong belongs to the economically developed regions in the world. Also, Hong Kong is a pretty western place. There are different lifestyles and cultural backgrounds between the people of Hong Kong and mainland China. Cancer is the leading cause of death in Hong Kong, accounting for 30.6% of all deaths in 2010. So, comparing cancer data between Hong Kong and mainland China may have a realistic significance on pushing development of cancer registration in China.

The top 10 most common cancers of Hong Kong were lung cancer, colorectal cancer, female breast cancer, liver cancer, prostate cancer, gastric cancer, nasopharynx cancer, non-melanoma skin cancer, non-hodgkin lymphoma, and corpus uteri cancer in 2010. The top 10 leading causes of cancer deaths in Hong Kong were lung cancer, colorectal cancer, liver cancer, gastric cancer, female breast cancer, pancreas cancer, non-hodgkin lymphoma, esophageal cancer, nasopharynx cancer, and prostate cancer in 2010 (5).

By comparisons, it shows that the orders and cancers of the top 10 most common cancers and the top 10 leading causes of cancer deaths are very different between Hong Kong and mainland China. As someone joked, Chinese were more susceptible to those so-called "poor cancers", such as liver cancer, gastric cancer, esophagus cancers, and cervical cancer, according to the earlier cancer data. But along with the Chinese wealth is continuing to grow, there are increasing more and more cases of what people called "rich cancers", like lung cancer, female breast cancer, colorectal cancers, lymph cancer, and prostate cancer.

### **Summary**

The progress of cancer registration is huge in China. But, it also indicates several ways in which registry practice, and hence availability and quality of incidence and survival data can be improved (1). Female cancer cases increase rapidly in China, more attention should be paid to female cancer issue. The prevention and control of "rich cancers" are also the major problem nowadays. We finally expect that cancer data of China should be shared to the researchers all over the world in time.

Yes, there is still a long way to go for cancer registration in China.

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