

Quality of information and cancer care planning in China: a commentary to the report of cancer incidence and mortality in China

Stefano Rosso^{1,2}, Roberto Zanetti^{2,3}

¹Chairman of the European Network of Cancer Registries (ENCR); ²Piedmont Cancer Registry - CPO Piedmont Reference Centre for Epidemiology and Cancer Prevention, Turin, Italy; ³Chairman of the International Association of Cancer Registries (IACR)

Correspondence to: Dr. Stefano Rosso. Chairman of the European Network of Cancer Registries (ENCR), Piedmont Cancer Registry - CPO Piedmont Reference Centre for Epidemiology and Cancer Prevention, Turin, Italy. via San Francesco da Paola 31, 10123 Torino Italy. Email: stefano.rosso@cpo.it.

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The first available data on cancer occurrence in China mainland dates back to 1975 when data from the Cancer Registry of Shanghai were accepted and included in the Cancer Incidence in Five Continents Vol. IV (CI5C) edited by John Waterhouse, Calum Muir, Kim Shanmugaratnam, and Jean Powell in 1982 (1). This scientific endeavour was paralleled by the publication of a valuable Atlas of Cancer Mortality just 1 year before in 1981 (2,3). Edited both in Chinese and English by the National Cancer Control Office of the Ministry of Health and the Nanjing Institute of Geography of the Chinese Academy of Sciences was based on a nation-wide cancer mortality survey.

Further highlights on cancer mortality was offered to the international public some years after with an analysis of emerging trends in cancer mortality from 1987 to 1999 (4). That work took a picture of a fast changing China, with decreasing cancer occurrence cancer in rural China and new emerging trends in urban China.

But mortality could offer only a partial insight on the changing cancer epidemics and incidence was much needed, although the limited coverage of cancer registration in China was exploited at its best for studying cancer epidemiology and data from the Shanghai and Hong King registries were included in international comparisons of cancer incidence trends (5).

Since then several registries followed, up to the 12 accepted for the last published Vol. X of CI5C. And now, cancer registration is a widespread national effort that comes back from earlier years and can count on a National organization [the National Central Cancer Registry

(NCCR)] that coordinates efforts, check quality and provide assistance. Data published in the Vol X of CI5C, with those to 12 registries from China, cover the period 2003-2007 and next publication is expected not earlier than 2016. It is therefore vital to have intermediate reports as this one describing situation in the fast changing China of year 2010.

The report by Wanqing Chen and colleagues (6) not only offers us an in depth picture of cancer incidence and mortality in China in year 2010, but also meticulously presents the quality control process that have led to data selection. Although apparently marginal, this part of the work is highly valuable because reassures the readers about the final quality of presented results. And we can only imagine the painful process that had led to leave out registries that did not comply with the stringent quality criteria here adopted. The resulting number of registries that qualified with their data for this publication is 145, covering an impressive population of more than 158 million inhabitants (about 12% of the whole Chinese population). Comparing quality indicators, we can see that the percentage of death certificate only (DCO), i.e., those cases notified to the registries only by means of a death certificate (see the 4th Table, in Chen *et al.*) (6), are quite low and comparable to the 12 registries in CI5C or other registries across the world. On the contrary, the percentages of microscopic verification still do not reach that observed in other registries in Europe, Oceania and North America and in the 12 selected in CI5C. However, this indicator can show either a difficulty of the registry in finding information of the diagnostic process or the lack of such good practice

in the diagnostic and clinical process.

The general picture, emerging from this report, reflects the strong contrast between a rural and an urban China, with opposite patterns of burden of cancer. While in urban China lung cancer in men (ASR 51.2) compared to incidence in Europe (45.6 in EU28 in 2005) or North America (SEER9 45.8 in CI5C Vol X), cancer burden in rural China is dominated by stomach cancer both in men (ASR 39.5 *vs.* 29.6 in urban China) and in women (ASR 15.5 *vs.* 12.0 in urban China), by oesophagus (ASR 23.3 in men and 9.8 in women *vs.* 12.9 and 3.9 in urban areas) and by liver cancer (ASR 32.7 in men and 10.8 in women *vs.* 23.3 and 8.5 in urban areas). Most notably rates of liver cancer are among the highest in the world, only paralleled by those in Korea, Japan, Thailand and Naples (Italy).

In women, although breast cancer is the most common cancer, its incidence is much lower (ASR 30.5 in urban and 20.8 in rural areas) than in North America (ASR 89.2) or Europe (ASR 77.7). Also prostate cancer is very low even in urban areas (ASR 6.1), and in rural areas did not even score among the top ten cancers.

Although the authors announces the incoming use of Chinese registries data for an international cooperative survival analysis (CONCORD II) (7), some inference on survival patterns can be sought comparing mortality to incidence ratio (MIR). This index, although traditionally used as an indirect measure of incidence completeness, can also be used as a rough estimate of survival. More precisely it has been suggested that its complement (1-MIR) is a valid proxy of 5-year relative survival (8). A first inspection of the 1-MIR index for some cancers, shows that survival from cancer with less favourable prognosis is in China aligned with those of western countries, while possibly a lower survival for cancer with better prognosis. However, these results should be confirmed later with formal and full

implemented survival studies.

In no doubt these important results will inform and help planning future actions in the fight against cancer, both on the side of eliminating and reducing risk factors, but also detecting earlier cancer, improving care and finally alleviating the suffering of those who will fail under the burden of cancer.

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