

Cancer burden in China and the role of the cancer registries

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The report by Wanqing Chen and colleagues (1) in *Annals of Translational Medicine* on cancer incidence and mortality in China in 2010 is a comprehensive documentation of the current state of cancer incidence, mortality, and the cancer registration system in the most populous country in the world.

Deaths from cancer constitutes a fifth of all deaths in China, and a quarter of all cancer deaths worldwide (2). A rapidly aging population in China means that the burden of cancer will continue to increase. An adequate information system is an essential part of any cancer control strategy (3). The role of cancer registration is more than to assess the success of new strategies for cancer control; it's one of the basic data sources for population-based research and health services planning.

The top incident cancers in 2010 include both cancers of infectious origin (e.g., stomach and liver cancer) and those primarily due to life-style factors (e.g., lung, breast and oesophagus cancer) (1). The major attributable causes of cancer deaths in China in 2005 were chronic infection (accounting for 29.4% of all cancer deaths) and tobacco smoking (22.6%) (4). These data add to the evidence that despite experiencing rapid epidemiological transition (5), high burden from both communicable and non-communicable diseases still exist in China, posing challenges to disease prevention and management. In light of these challenges, up-to-date monitoring of the trends of the incidence, survival and mortality of major diseases like cancer becomes essential to informed public health intervention and planning. Representative, reliable, and comparable population-based data over a long time period is needed.

The progress by the Chinese National Cancer Registry

Program (NCRP) in rapidly establishing new cancer registries, expanding coverage, and in standardising the existing regional registries over the past years should be applauded. The population covered by cancer registries in China has increased from over 110 to 200 million, covering more than 15% of the population in 2012 (1). The dedication of the National Health and Family Planning Commission to fund and support the NCRP reflects a welcoming sign of the central government's commitment for basic epidemiological data collection and research, as well as an indication of evidence-based approach to public health in China.

The importance of representativeness of cancer registries should not be understated. Even though it is not imperative for cancer registration to cover the entire population (3) in a country as populous and diverse as China, obtaining a representative sample of the population is still essential. It was shown that the burden of cervical cancer was potentially underestimated, because regions with registration coverage in China had, on average, higher income than other areas (6). On the other hand, although cancer mortality of the covered population was shown to be representative at the national level, rural mortality may be over-estimated as many rural cancer registries were set up in high risk areas (7).

Floating population (a term used for the Chinese internal migrants, reflecting their high social instability) in China also presents major public health challenges (8). In 2009, there were a total of 229.8 million (more than 17% of the total population) migrant workers in China (9)—this is larger than the population of Brazil, the fifth most populous country in the world. In Beijing alone, over a quarter of the population (over 7 million) are migrant workers in 2012 (10). Although strict definition for

resident populations in China exists (the Hukou system, which provides valid population at risk information from census data), limiting the cancer registration in urban areas to resident population (a usual practice) essentially means discarding the data of all the migrant workers, and thus preventing the health services from monitoring and planning for their health needs. Capturing and utilising the data from migrant workers would thus be essential for the representativeness of any population registration systems in China.

For a country as geographically and demographically diverse as China, the NCPR should recognise that one size may not fit all. Their primary aims should be to achieve more representative coverage, standardise the basic items of data collection, and improve the quality and comparability of cancer registries (11). Regional governments and institutions should provide the resources and incentives for more detailed data collection and analysis, targeting the local health needs, including those of the migrant workers. Analyses of trend and cluster investigations would be possible when long term cancer data become available. For survival analyses, routine linkage to follow-up on vital status is essential. Data on screening status, diagnostic stage and treatment (including those from traditional medicine) would be informative to health system monitoring and programme evaluation. As stated by Goss *et al.* in their exhaustive work on the challenges of cancer control in China (2), “timely and increased collection of population data, taking into account urbanisation trends” is the key recommendation for effective cancer control in China.

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