

## National cancer control and registration program in India

Cancer has emerged as a major public health concern in India. 12.5 lakh new cases are diagnosed every year and around 28 lakh cases of cancers are prevalent at any given point of time. It also claims lives of about 6.8 lakh patients per year.<sup>[1]</sup> According to the World Health Organization (WHO), death from cancer cases in India is projected to rise to 13.1 million by the year 2030. The burden of cancer is expected to further increase due to increase in life expectancy, demographic transitions and the effects of tobacco and other risk factors. As per latest data of India from GLOBOCAN 2012,<sup>[1]</sup> top three cancers in female are breast, cervix uteri and colo-rectum and in male are oral cavity, lung and stomach. Most cancer cases in India are associated with tobacco use, infections, and other avoidable causes. Social factors, especially inequalities, are major determinants of India's cancer burden,<sup>[2]</sup> with poorer people more likely to die from cancer before the age of 70 years than those who are more affluent. National Cancer Registry Programme (NCRP) data of Indian Council of Medical Research (ICMR)<sup>[3]</sup> suggest a wide demographic variation in incidence of cancer. While Aizwal district has an age-adjusted incidence rate (AARs) of 273.4, the rural registry of Barshi in Maharashtra has an AAR of 51.8. These data reflect the impact of environmental and cultural factors on the incidence of cancer. In urban registries like Delhi, Mumbai and Thiruvananthapuram, breast cancer is the most common cancer in women<sup>[4]</sup> and in registries such as Barshi, Aizwal and Guwahati, cervical cancer is most common in women. Cancer of the stomach and liver are among the most common malignancies in Mizoram and carcinoma of the gall bladder figures among the top five cancers in some registries such as Delhi and Dibrugarh.

Estimating the cancer burden not only helps us to formulate policies but also gear up for future management strategies. The NCRP commenced by the ICMR in December 1981 has been working on the objectives of collection of authentic data on cancer occurrence, undertaking epidemiological studies, developing human

resource in cancer epidemiology and registration and helping National Cancer Control Program (NCCP) of our country in planning, monitoring and evaluation of cancer control activities. This began with a population based cancer registries (PBCRs) at Bangalore, Chennai, Mumbai and hospital-based cancer registries (HBCRs) at Chandigarh, Dibrugarh, and Thiruvananthapuram. After realizing the success of the NCRP, it has been now extended to cover other common noncommunicable diseases with more or less similar etiological factors like cardiovascular diseases (CVD), Diabetes and Stroke under the National Centre for Disease Informatics and Research (NCDIR) under the ICMR in March 2011. NCDIR is based at Bangalore. The NCRP, as of now, has a network of 28 population-based and 9 HBCRs. The broad and overall objectives of the NCDIR is to sustain and develop a national research data-base on cancer, diabetes, CVD and Stroke through recent advances in electronic information technology with a national collaborative network, so as to undertake etiological, epidemiological, clinical studies and research in these areas. The current thrust areas of NCDIR are cancer registries, patterns of care and survival studies (POCSS) and development of software applications programmes. At present, 17 centers are collaborating in the POCSS, data generated under POCSS of uterine cervical cancer, breast cancer and head and neck cancers is already in the process of being analyzed and published. NCDIR has also developed software for documentation of details of pathology<sup>[5]</sup> and radiotherapy.<sup>[6]</sup> Though still in the developmental stage, it would be an invaluable tool for collection of high-quality data from various centers across the country.

Another project under NCDIR is the cancer atlas. Even though, it cannot be a substitute for a PBCR, it provides a quick overview of the pattern and magnitude of the problem in a particular defined geographical area. In fact, the Cancer Atlas project was the first to provide important leads about higher incidence of cancer in the northeastern parts of our country. These findings were later confirmed by the establishment of PBCRs in northeastern states. It functions by strengthening the departments of pathology in medical colleges and other hospitals and also providing orientation/training in cancer registration and epidemiology to pathologists. This project also lays emphasis on collecting cancer incidence data in areas not covered by the NCRP. 119 centers collaborating under the

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cancer atlas projects in the northeast and Punjab and 46 centers are using the registry software programs developed by the NCDIR.

National Cancer Control Programme is a centrally sponsored scheme by the Ministry of Health and Family welfare, Government of India, which was initiated in the year 1975, with priorities given for equipping the premier cancer hospitals/institutions. Later, the program was modified in the year 1984-1985 with emphasis on primary prevention and early detection of cancer. The district cancer control program was introduced during 1990-1991 and later modified in 2000-2001. NCCP was evaluated in 2004, and the program was further revised with effect from January 1, 2005. So far, NCCP has supported 85 oncology wings in medical colleges including 27 tertiary cancer centers across the country.

Keeping in view the preventable common risk factors of cancer and other noncommunicable diseases (NCDs), the ministry has formulated a National Program for prevention and control of cancers, diabetes, cardiovascular diseases and stroke (NPCDCS) after integrating the NCCP with other NCDs. The major components of this program have been to strengthen 100 districts in 21 states for cancer care services, strengthen 65 centers as tertiary cancer care centers (TCCCs) throughout the country, establish NCD cells for monitoring the program implementation at the selected States/Districts and promote information, education and communication for creating awareness generation among the community about cancer and its available services. Under the NPCDCS (in 12<sup>th</sup> 5 year plan), 120 crores each have been sanctioned for the establishment of 20 state-level cancer centers. 50 TCCCs will be established in different parts of the country, which include strengthening of existing 27 regional cancer centers and setting up or strengthening of 23 tertiary cancer care centers at medical colleges, district hospitals, state govt. or nongovernmental organizations Institutions. An amount of Rs 45 crores has been allocated for each TCCC.

In our country, a lot has been achieved, and the geographical gaps in the treatment facilities have been corrected to a large extent through the various programs and schemes of the Government over the years. We still have to achieve more. Efforts are on to meet this gap. To give an example, at present, 337 centers are equipped with radiotherapy facilities. These centers have in total 262 linear accelerators, 232 tele-cobalt units, 4 cyberknives, 3 tomotherapy machines, 8 gamma knife units (including one whole body gamma knife) and 218 brachytherapy units. As per WHO and International Atomic Energy Agency norms,

1 radiotherapy machine is required per million populations. In India, the current status is 0.41 machines per million populations, and there is an unmet need of 0.59 machines per million populations. This need is bound to rise because of the increase in population and dismantling of old equipments. Besides this, the requirement of treatment facilities, there was also an urgent need to have a center or centers which can plan, conduct and co-ordinate cancer-related research for understanding, detecting, diagnosing and treating cancer and translate this knowledge to develop feasible strategies to improve cancer care services and the quality of life of patients.

To meet this unmet need, Government of India has approved the proposal for setting up the National Cancer Institute (NCI) under the All India Institute of Medical Sciences at Jhajjar, Haryana. This shall be landmark in the arena of translational cancer research and shall also lessen the gap of deficit of tertiary cancer care particularly in the northern region of the country. The proposed NCI will operate on the lines of NCI (US) and DKFZ (Germany) as a nodal center for India-centric cancer research, promotive, preventive and curative aspects of care and human resource development. It has already signed memorandum of understandings (MOU) with Department of Biotechnology, Government of India and Institute of Cytology and Preventive Oncology under the ICMR. The process of signing an MOU with the NCI-US has already started. The proposed institute will broadly have 16 clinical divisions, 15 research divisions, and various translational disease management groups, besides other routine facilities. This will have 710 beds for different facilities viz. surgical oncology, radiation oncology, medical oncology, anesthesia and palliative care, nuclear medicine, etc. It will have a tissue repository which will be first in its kind in India. It will act as the principal agency of the country for promoting, coordinating and conducting innovative research and the development of novel interventions to prevent and treat cancer. It will work further to create international linkages with major cancer centers for exchanging cancer related information, establish a collaborative network with voluntary cancer organizations, create and disseminate credible data-bases of cancer incidence, epidemiology, treatment, mortality etc. and also to translate the knowledge to evolve national cancer control policies and programs to improve the quality of services and quality of life of cancer patients.

We are entering into a new era of cancer care with many new challenges. These efforts by NCDIR, NPCDCS and establishment of NCI would definitely strengthen us in our war against cancer in the new millennium. The onus lies on each one of us to join our hands and strive towards a better and universal cancer care.

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## Important Meeting dates in 2014-2015

Meeting	Venue	Contact
ISMPOCON 26th -28th Dec 2014	Kolkata	ismpocon2014@gmail.com
Clinical Practice Guidelines Oncology-2014 and Indian Perspective, 20th Dec 2014	Chennai	anitachandra100@hotmail.com
Apollo Cancer conclave & Cancer CI-2015, 6th-8th Feb 2015	Hyderabad	acc.cci2015@gmail.com
IACR Annual Conference 19th to 21st Feb 2015	Jaipur	iacr2015@gmail.com
32nd ICON 13th-15th Mar 2015	Patna	drjksingh147@hotmail.com
A-PHPBA 2015 18th-21st March 2015	Singapore	info@aphpba2015.com