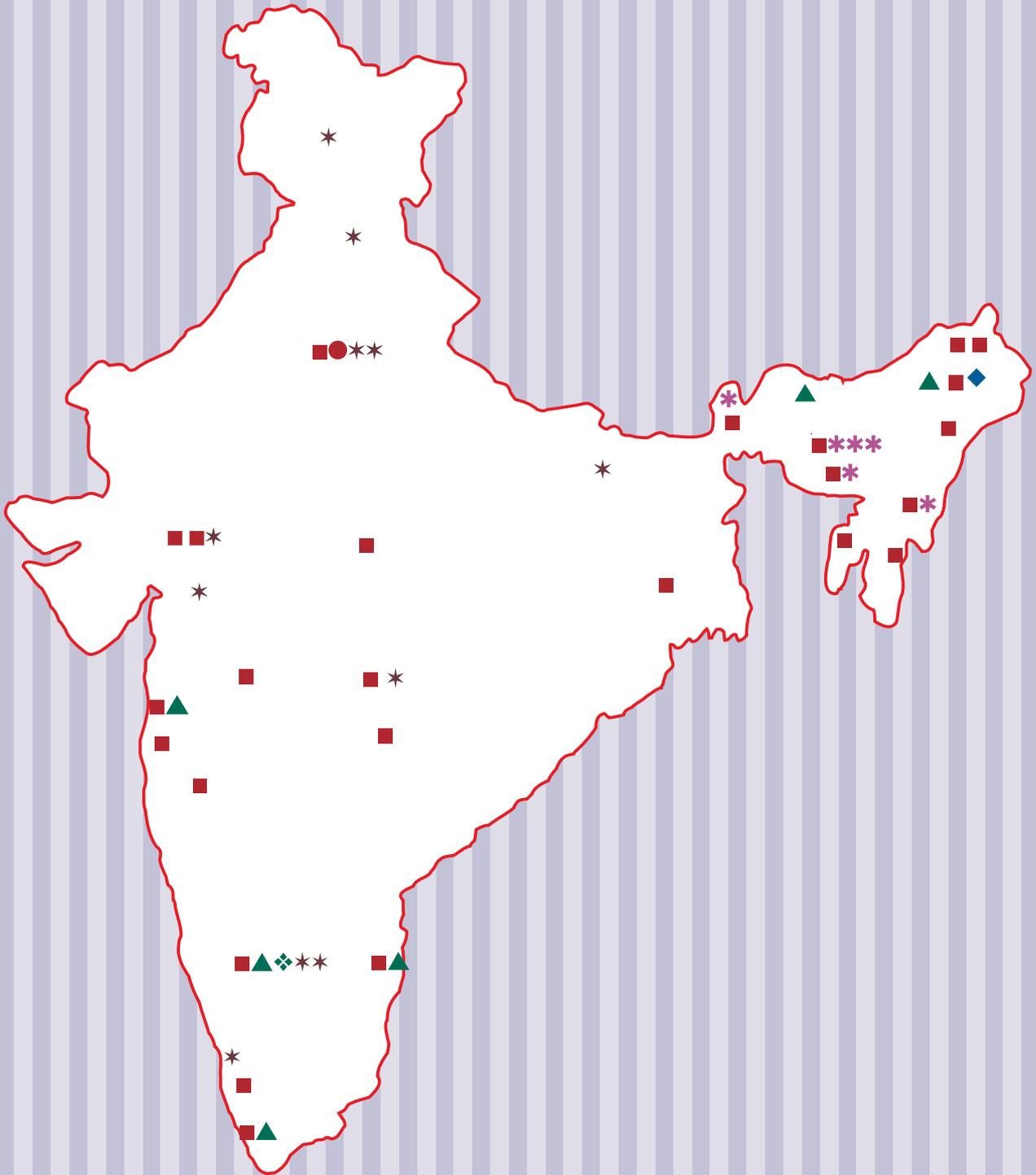


NATIONAL CANCER REGISTRY PROGRAMME

Three-year Report of Population Based Cancer Registries 2006-2008



First Report of 20 PBCRs in India

Indian Council of Medical Research



NATIONAL CANCER REGISTRY PROGRAMME

Indian Council of Medical Research

Three-Year Report of Population Based Cancer Registries 2006-2008

Incidence and Distribution of Cancer

(First Report of 20 PBCRs in India)

Bangalore, India

November 2010

© National Cancer Registry Programme
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November 2010

Population Based Cancer Registries provided individual core data. Quality control checks, tabulations and statistical analysis were done at the Coordinating Unit of NCRP, Bangalore.

The publications of NCRP are intended to contribute to the dissemination of authentic information on cancer incidence by age (Five-year age groups), sex and site (ICD-10).

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*This printed report is an abridged version of the detailed report.
The detailed report with few additional tables and figures of Chapters 1-5 along
with registrywise Annexure Tabulations can be viewed on the website www.pbcrindia.org*

NATIONAL CANCER REGISTRY PROGRAMME

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was instrumental in initiating the NCRP along with
Dr. Usha K. Luthra and Dr. Ravi Rengachari in 1981.

FOREWORD



I am pleased to write this foreword for the consolidated report of twenty Population Based Cancer Registries (PBCRs) covering three years from 2006 to 2008. This is the outcome of the efforts of the PBCRs under the National Cancer Registry Programme (NCRP) of the Council. This is for the first time that the PBCR report includes data from 20 PBCRs. It includes the information provided by the six well-established older registries, six registries of the North East and eight relatively newer registries. Hopefully in the forthcoming years each state of the country would have at least one PBCR.

The main emphasis of PBCR reports is on describing incidence rates and patterns of cancer in the country. It serves as an important baseline in planning early detection and prevention programmes, evolving indicators for the same and in also undertaking aetiological and risk factor research in cancer. This increases the importance of this evidence-based report. Though the geographic area and the population covered by the registries is small, compared to the vastness of the country and its huge population, the data does give a fair idea of the cancer problem in the country.

Application of electronic information technology in processing the data has greatly helped in reducing the time gap between the calendar year of data collection and report publication. This has also helped in standardizing data processing methodology and timely rectification of inconsistencies in data.

The coordination and management of primary data received from various centres across the country involves considerable effort. The staff of the Coordinating Unit of NCRP deserves to be commended for their dedicated work that has enabled in the successful completion of this report. I am sure that as in the past this report will serve as a good resource material to academicians, researchers, policy makers and other stake holders.

A handwritten signature in blue ink, appearing to read 'V.M. Katoch', with a stylized flourish at the end.

Dr V.M. Katoch

Secretary, Department of Health Research &
Director General, ICMR

PREFACE

The Indian Council of Medical Research commenced the National Cancer Registry Programme (NCRP) in the year 1981 with the main objective of generating reliable data on the magnitude and patterns of cancer in the country. Initially, three population (PBCR) and three hospital (HBCR) based cancer registries were set up and these registries commenced data collection from 1 January 1982. Over the years, the registry network has expanded so as to have twenty six PBCRs and six HBCRs under the NCRP network. Through this network, all the eight states of the North East have at least one PBCR and these cover the vast majority of the population in this region.

The application and use of electronic information technology has greatly speeded up data processing and preparation of the report while significantly improving the quality of data. The challenge in the coming years is to ensure that the technology is used by many of the major sources of registration of cancer cases that provide information to a PBCR.

The PBCR reports have over a period of time, become the standard work of reference not only within our country but abroad as well. Besides providing information on what type of cancer and where it is occurring and what is its magnitude, these documents have contributed a base for deciding priorities in cancer control programmes in India. More specifically, Chapter 6 compares the incidence patterns of cancer across twenty population based cancer registries indicating striking differences. The need for having region specific cancer control measures is obvious from this information.

The present report is a culmination of sustained efforts made by the cancer registries and the NCRP. The unstinted support of Director General, ICMR to this programme is gratefully acknowledged. It is hoped that this publication will provide an insight and serve as a useful reference on cancer incidence in India for researchers, clinicians, health administrators and others interested in this field. The Coordinating Unit of the NCRP and the registries with their team members deserve to be congratulated for their dedicated work and providing quality data which enabled the successful completion of this report.



Dr Bela Shah

Head, Division of Non-Communicable Diseases, ICMR

Three-Year Report of Population Based Cancer Registries 2006-2008

Executive Summary

Since the establishment of the National Cancer Registry Programme in 1982 this is the first report of 20 Population Based Cancer Registries (PBCR) covering 7% of the population. Though the population covered is small, it gives a fair idea of the patterns of cancer prevailing in the different regions of the country. The basic emphasis of the PBCR is to provide information on cancer incidence and mortality in the community. The PBCR also provides information on variation in incidence rates and mortality rates over time. This has greatly helped in providing indicators for cancer control. Thus a decline in incidence rate of certain cancers indicates the effectiveness of a cancer control activity unless there are other compounding reasons for the same.

Cancer incidence is generally expressed as age adjusted and age standardized (according to World Standard Population) incidence rate per 100,000 persons. For all anatomical sites, the AAR varied for males from 40.8 per 100,000 persons in Barshi Expanded Registry area to 249.5 per 100,000 persons in Aizawl District (Mizoram State). For females it ranged from 49.0 in Ahmedabad Rural to 210.0 in Aizawl District. The details of such rates including cumulative rate and risk are outlined in chapter 1.

Chapter 2 provides ten leading sites of cancer, in 20 PBCRs depicted across 25 registry areas. Among older urban registries at Bangalore, Bhopal, Chennai, Delhi and Mumbai cancer of the lung was the leading site of cancer among males. Among females, breast was the leading site of cancer. Among North Eastern Registries, cancer of the oesophagus was the leading site among males in all the registries in Assam but not in the other North East registries. Lung was the leading site in Manipur whereas stomach was the leading site in Sikkim and Mizoram. Among females cancer of the breast was the leading site in all the three registries in Assam whereas lung was the leading site in Manipur and Mizoram and cervix uteri in Sikkim state. The two registries in Gujarat state (Ahmedabad Rural and Urban) showed tongue and mouth as the leading sites in males and cancer of the breast as leading site in females. In males in Aurangabad, Kolkata and Mumbai the leading site was lung cancer and among females it was breast cancer. The other two registries in Maharashtra state - Nagpur and Pune showed mouth as the leading site of cancer in males and breast in females. The two registries in Kerala state had similar leading sites of cancer with lung in males and breast in females.

Chapter 3 gives the summary of sites of cancer associated with the use of tobacco. Dibrugarh district among males had the highest relative proportion with 57% of cancers being of those sites associated with the use of tobacco. Among females also, Dibrugarh district had the highest proportion with 26.3% of all cancers being tobacco related.

Chapter 4 gives the summary of Basis of Diagnosis of the cancers. The proportion of microscopic verification in males varied from 61.5% in Mizoram excluding Aizawl to 93.9% in Imphal West district. Among females, the microscopic verification ranged from 56.4% in Mizoram excluding Aizawl to 94.4% in Imphal West district.

The details of cancer mortality are provided in chapter 5. The mortality / incidence ratio(M/I) was highest in Barshi Rural (82.0) and lowest in Delhi (11.8). Among females also, the rural registry at Barshi showed the highest M/I ratio of 73.1.

Chapter 6 compares the cancer incidence and patterns of all 25 registry areas for selected leading sites of cancer. The AAR of cancer of the oral cavity that comprises mouth and tongue was comparatively high in the registries at Gujarat, Bhopal and Kerala as also the registries at Bangalore and Chennai especially among females. Cancer of the nasopharynx was distinctly higher in the North Eastern registries. Cancer of the oesophagus was common in Assam and Mizoram in both males and females. Cancer of the stomach was the highest in registries in Mizoram and Sikkim followed by Chennai in males as well as females. Cancer of the colon in males was high in Imphal West district and in the urban PBCRs at Bangalore, Mumbai, Thiruvananthapuram and Chennai. Cancer of the lung was considerably high in Mizoram and all other North Eastern states in both males and females. Bangalore and Thiruvananthapuram had the highest AAR for cancer of the breast and corpus uteri. Delhi had the highest AAR of 10.9 for cancer of the prostate in males.

The thrust of work of the Coordinating Unit of NCRP in recent times has been to harness the power of electronic information technology. Accordingly, the PBCR Data Management software has been developed in-house and distributed to most of the registries. This has greatly helped in further systematizing data checking, processing and analysis. Thus the NCRP has been able to come up with the report of the 2008 data for almost all the registries under NCRP in late 2010.



Dr A. Nandakumar
*Deputy Director General (Sr Gr) &
Officer-in-Charge*

NATIONAL CANCER REGISTRY PROGRAMME

The National Cancer Registry Programme (NCRP) was commenced by the Indian Council of Medical Research (ICMR) with a network of cancer registries across the country in December 1981. The main objectives of this Programme were: 1. To generate reliable data on the magnitude and patterns of cancer; 2. Undertake epidemiological studies based on results of registry data; 3. Help in designing, planning, monitoring and evaluation of cancer control activities under the National Cancer Control Programme (NCCP); 4. Develop training programmes in cancer registration and epidemiology.

With these objectives three Population Based Cancer Registries (PBCRs) at Bangalore, Chennai and Mumbai and three Hospital Based Cancer Registries (HBCRs) at Chandigarh, Dibrugarh and Thiruvananthapuram were commenced from 1 January 1982. The PBCRs have gradually expanded over the years and as of now there are 26 PBCRs and 6 HBCRs under the NCRP network and these are illustrated in the map overleaf.

The NCRP is a long term activity of the ICMR and the office of the NCRP is located in Bangalore. It is assisted by a Steering Committee and a Monitoring Committee that meets periodically to oversee and guide its functioning. A review meeting is held annually where the Principal Investigators and staff of the registries present results and participate in the discussions. The meeting is preceded by a workshop.

Cancer registration in India is active and staff of all registries visit hospitals, pathology laboratories and all other sources of registration of cancer cases on a routine basis. Death certificates are also scrutinized from the municipal corporation units and information collected on all cases where cancer is mentioned on the death certificates.

The information that is collected on a core form that is computer ready is subsequently entered in to a computer. Over the years, the registries and the office of the NCRP have used modern advances in electronic information technology to not only enter the data but also help in specific activities that involves checking of the data, verification of duplicates and matching mortality and incidence records. Electronic processing of data is now being tried out in some registries.

Data quality and completeness of coverage is a prime requisite for good cancer registration. This is ensured to the best possible extent by the NCRP.

Over the years, the staff from registries and the NCRP have benefited from both short term and long term training fellowships in established institutions in developed countries. This has helped the working of the cancer registries and also to evolve epidemiological studies. Data from the NCRP registries is regularly published in succeeding volumes of Cancer Incidence in Five Continents published by the International Agency for Research on Cancer - the cancer research arm of the World Health Organization (WHO).

NATIONAL CANCER REGISTRY PROGRAMME

(Indian Council of Medical Research)

