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**REPORT ON
MONITORING SURVEY OF CANCER RISK
FACTORS AND HEALTH SYSTEM
RESPONSE IN NORTH EAST REGION (NER)
OF INDIA**

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Foreword



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Foreword

According to reports of the National Cancer Registry Programme, India is witnessing a rise in the burden of cancer. The incidence and mortality rates for cancer are the highest for the country's North East Region (NER). Given this, ICMR-NCDIR conducted the 'Monitoring survey of cancer risk factors and health system response in NER during 2019-2021, as a part of the 'Prevention and control of cancer in the North Eastern States in India (CaRes NER Programme)'. The survey aimed to understand the distribution of major cancer-associated behavioral and metabolic risk factors at a population level. The health system's response towards cancer prevention and control at the primary and secondary level in public and private sector health facilities has also been assessed.

I appreciate the hard work of the investigators of the collaborating sites and the scientists and staff ICMR-NCDIR for completing the survey even during the pandemic situation and bringing out this report of great relevance to cancer prevention and control.

It is hoped that this survey will aid in establishing a cancer risk factor surveillance program at the Population Based Cancer Registries, which have been compiling data on cancer-related statistics for many years. This would help to monitor the outcomes of different prevention and control initiatives that are being implemented in the region.

Balram Bhargava
(Balram Bhargava)

Preface



डॉ प्रशान्त माथुर डी सी एम आर, डी एन बी, पी एच, डी., एम एम ए एम एम
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ICMR - National Centre for Disease Informatics and Research
Department of Health Research, Ministry of Health
and Family Welfare, Government of India

PREFACE

The report on 'Monitoring survey of cancer risk factors and health system response in North East Region (NER) of India' gives a comprehensive yet descriptive presentation of the profile of largely modifiable risk factors of cancer that could contribute to the high burden of cancer in the region, as recorded in the periodic reports of the National Cancer Registry Programme (NCRP). The survey aimed to generate key cancer and other NCD related risk factors and health system response indicators in all the twelve Population Based Cancer Registries (PBCRs) of the eight states in the Northeastern region of India under the overall co-ordination of the Indian Council of Medical Research (ICMR) - National Centre for Disease Informatics and Research (NCDIR), Bengaluru.

The report describes the rationale of establishing a cancer risk factor surveillance system in a PBCR and the methodology of conducting an all-encompassing survey that would capture data on the socio-behavioural determinants of cancer, co-morbidities which could increase cancer risk and mortality, health and treatment seeking behaviour, access to health care and preparedness of the health system to address cancer prevention and control. The report concludes with a listing of key findings and recommended strategies to address areas of concern.

This survey was an approach to implement a baseline monitoring system that would drive us to understand the linkage between exposures to risk factors, other NCDs, and cancer incidence derived from the PBCRs in the NER. The survey findings will enable the policymakers and stakeholders at making the best decisions to address cancer prevention and control in the region.


Prashant Mathur

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Acknowledgement

It is an immense pleasure to bring out the 'Report on monitoring survey of cancer risk factors and health system response in North East Region (NER) in India ', which has been made possible by the valuable contribution of several persons.

First and foremost, we would like to thank all the study respondents whose data were included in the Report. We acknowledge the tireless efforts of the Principal Investigators, Co-Principal Investigators, registry and survey staff undertaking the survey despite the challenges imposed by field conditions and the COVID 19 pandemic and completing it within the specified period. We would also like to thank the state health authorities in each state for granting the requisite permissions for surveying the health facilities.

We want to thank our experts: Dr Binod Patro, Dr. Tulika Goswami, Dr K R Thankappan, Dr. Brogen Singh Akoijam and Dr Himanshu Chaturvedi for providing the much needed technical expertise for finalizing the study tools, sample size, operational manual, training of trainers, regional training and undertaking supervisory visits to the PBCR survey sites.


We are very grateful to Prof Balram Bhargava, Director General ICMR and Secretary DHR, for his constant inspiration and motivation for undertaking research that could be translated into fruitful actions that would help address the nation's health needs.

We want to thank our Director, Dr Prashant Mathur, for his guidance and support in the execution of the project and preparation of the report.

This passage would not be complete without acknowledging the vital and supportive role of the scientific and technical staff of NCDIR. They include Mr N Suresh Kumar, Dr Sravya L, Dr Prachi Phadke, Mr Rohith Mohan, Ms Nifty Tomy, Mr Thillai Govindarajan, Ms Nirmala V, Mr Arindam Debnath and Ms Gurpreet Kaur Rajput. We are also thankful to Ms Priyanka Das, Mr Monesh and Mr Solomon for their contribution towards report design and developing the online version of the report. The support and facilitation of the administrative and finance staff at NCDIR are duly acknowledged.



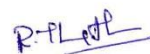
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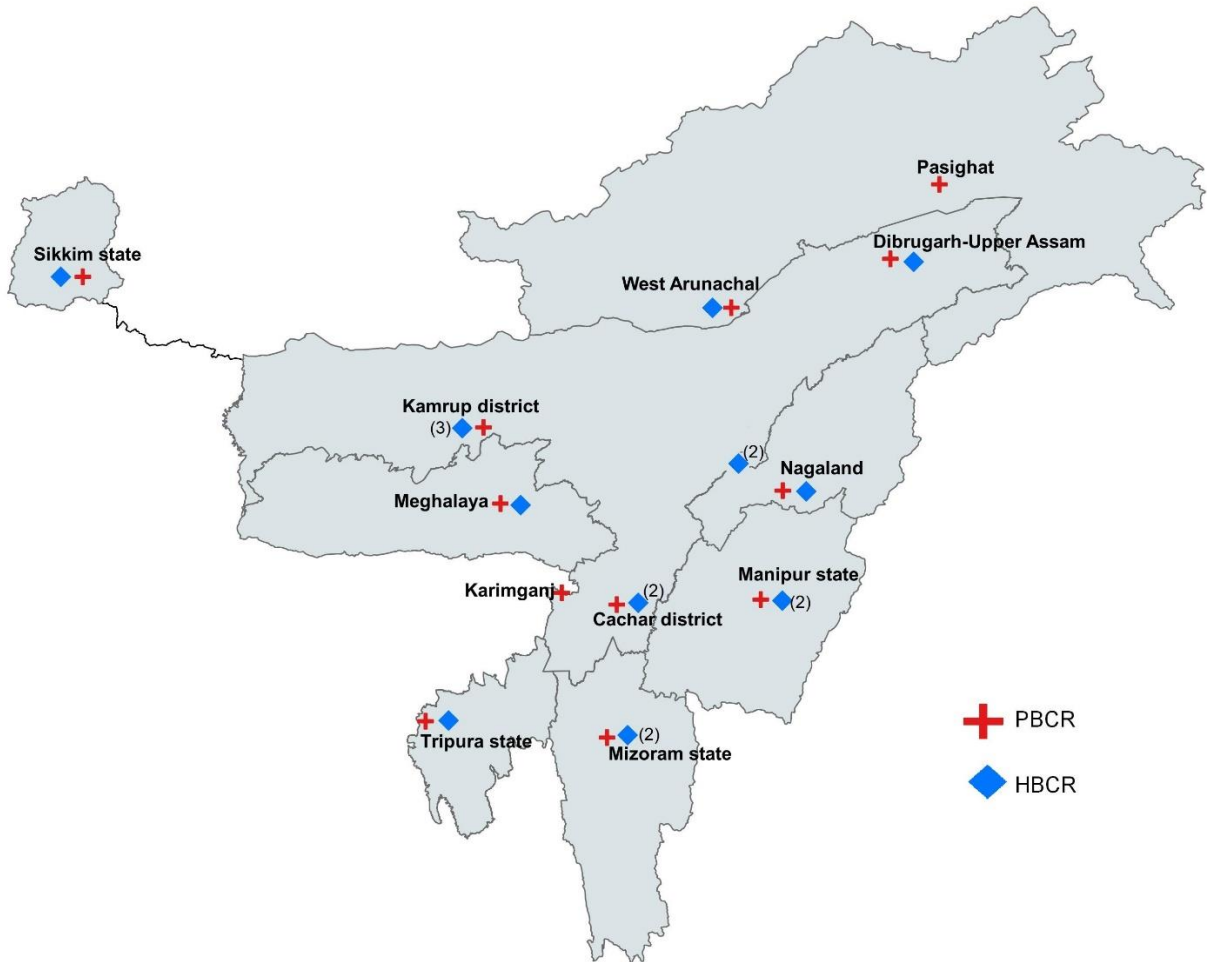


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Network of PBCRs and HBCRs in North East India



List of abbreviations

AAR	Age Adjusted Incidence Rate
BMI	Body Mass Index
BP	Blood Pressure
CCA	Central Coordinating Agency
CEBs	Census Enumeration Blocks
CHCs	Community Health Centres
Co-PI	Co-Principal Investigator
CVDs	Cardiovascular Diseases
DALYs'	Disability Adjusted Life Years
DHs	District Hospitals
HHs	Households
HPV	Human Papilloma Virus
HWCs'	Health and Wellness Centres
ICMR	Indian Council of Medical Research
MET	Metabolic equivalent
MOHFW	Ministry of Health and Family Welfare
MSW	Medical Social Worker
NCDs	Noncommunicable Diseases
NCDIR	National Centre for Disease Informatics and Research
NCRP	National Cancer Registry Programme
NER	North-East Region
NGO	Non-Governmental Organization
NNMS	National NCD Monitoring Survey
NPCDCS	National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke
PBCR	Population Based Cancer Registry
PHCs	Primary Health Centres
PI	Principal Investigator
PPS	Probability proportional to size
PSUs	Primary Sampling Units
SDGs	Sustainable Development Goals
TCCC	Tertiary Care Cancer Centers
WC	Waist Circumference
WHO	World Health Organization

Executive Summary

Background, rationale and objectives

The incidence, mortality, and cumulative risk of developing cancer has been consistently high in the Northeastern Region (NER) of India, according to reports of the National Cancer Registry Programme (NCRP). While the Population Based Cancer Registries (PBCRs) under the NCRP have been instrumental in providing the much-needed cancer data for the geographic area covered by a registry, it is vital to understand the likely reasons for the reported cancer incidence and its outcomes. Cancers share several common risk factors, and comparable health system needs with other significant NCDs (cardiovascular diseases, diabetes, stroke, chronic obstructive pulmonary disease and chronic kidney disease) for prevention, early detection and control. These include major behavioural and metabolic risk factors such as tobacco use, unhealthy diet, inadequate physical activity, alcohol use, raised blood glucose and overweight/obesity. Therefore, establishing a cancer risk factor surveillance system within a cancer registry is essential to track changes, implement suitable interventions and evaluate their impact, which would be reflected in the magnitude of cancer that is periodically reported from the registry. The survey objectives included:

Primary objectives: To generate prevalence of key cancer and other NCD related risk factors and estimate health system response in all the 12 PBCRs of the eight states in Northeastern region of India.

Secondary objectives:

- To set a baseline to monitor and track trends in the prevalence of risk factors associated with cancer and other NCDs in the 12 PBCRs of the eight states in Northeastern region of India.
- To link or correlate risk factors with cancer incidence and burden collected by the 12 PBCRs in the NER.

Key findings

- The proportion of solid fuel use was high in rural areas (79%). Over half (51.3%) of the population (rural and urban combined) used wood as cooking fuel. More than three quarters (77.4%) of the rural population used 'open stove' or '*chulha*' for cooking.
- Nearly half of the respondents (48.6%) were current tobacco users, comprising 61.7% men and 34.8% women. Over one third (38.8%) of men were current users of smoked tobacco

- Close to a quarter (22.8%) of the respondents reported to have consumed alcohol over the past 12 months and 18.3% reported alcohol use within the past month.
- The mean number of days on which either fruits or vegetables were consumed was 0.8 days in a week.
- According to the WHO criteria, the proportion of those who were obese was 5.2%, while the prevalence of obesity was higher (27.6 %) using Asian cut off points.
- The prevalence of raised blood pressure was 28.7%, of which the proportion of newly detected (20.8%) was higher than previously known (7.9%).
- The proportion of respondents whose blood glucose level was over 126 mg/dl was 5.1%, among whom the proportion of known diabetics was 3.3%.
- Less than 10% of the respondents had received advice regarding lifestyle modification from a health care provider, regarding avoidance of tobacco and alcohol use, maintaining a healthy body weight and undergo screening for common cancers: oral, breast, head and neck.
- Close to a third (29.9%) of the cancer patients had sought health care outside of their state, the majority (63.6%) were availing of treatment at a government health facility.
- Over a quarter (26%) of the cancer patients were self-financing their treatment; 5.8% were covered by health insurance.
- Cancer screening for all three types of cancers (cervical, breast, oral) was available in 19.1% of the PHCs', 20.4 % of the CHCs' and 35.7% % of the District hospitals.
- A few CHCs' had a specialist in position in the following departments: surgery (17.3%), medicine (39.8%) and gynaecology (36.7%).
- Less than 50% of the General Duty Medical Officers at the CHCs' and District hospitals had been trained for NPCDCS/NHM (NCD related)/State program. Likewise, the proportion of staff from other cadres who had undergone NCD-related programme management training was low in PHCs', CHCs' and District hospitals.
- About a quarter of the District hospitals had daycare facilities for chemotherapy (24.3%) and histopathology (21.4%).

Overall, addressing cancer control in the NER requires a multidisciplinary approach at all the levels of prevention, from primordial to tertiary, coupled with community participation and multisectoral coordination to ensure optimal outcomes which would be evidenced by cancer incidence and outcomes in terms of survival rates and mortality.