

# NCD Risk Factor Surveillance in India: Leveraging Research to National Action

**Dr Prashant Mathur**

**Assistant Director General**

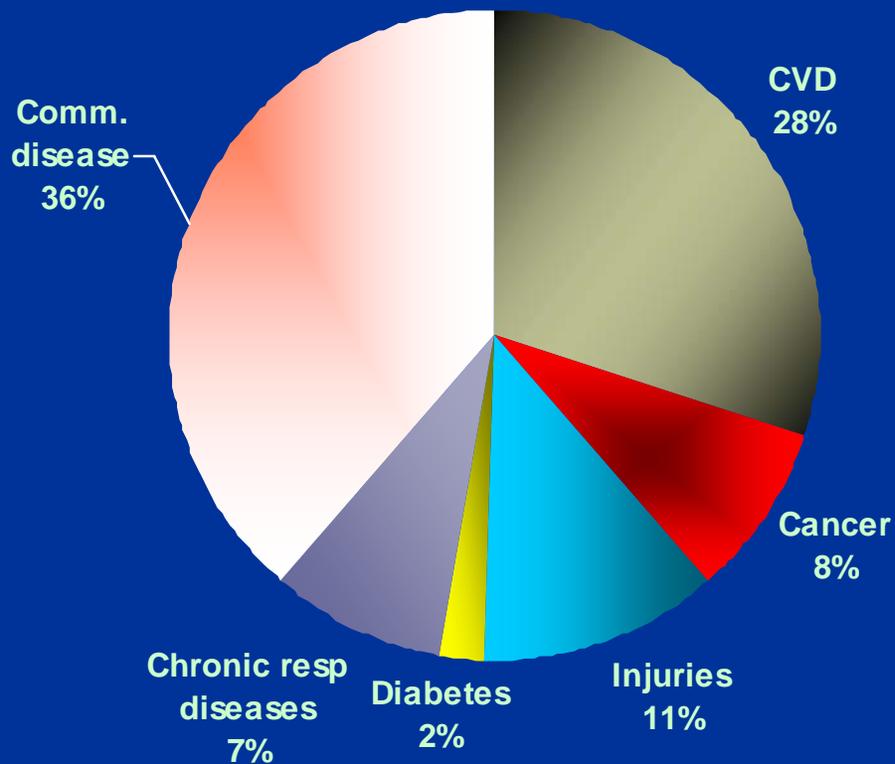
**DIVISION OF NONCOMMUNICABLE DISEASES**

**INDIAN COUNCIL OF MEDICAL RESEARCH**

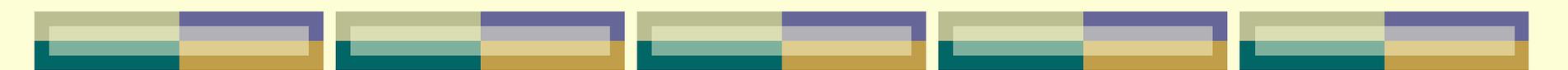
**NEW DELHI, INDIA**

**Email: [mathurp@icmr.org.in](mailto:mathurp@icmr.org.in)**

# 'Grave' picture for 2005, India



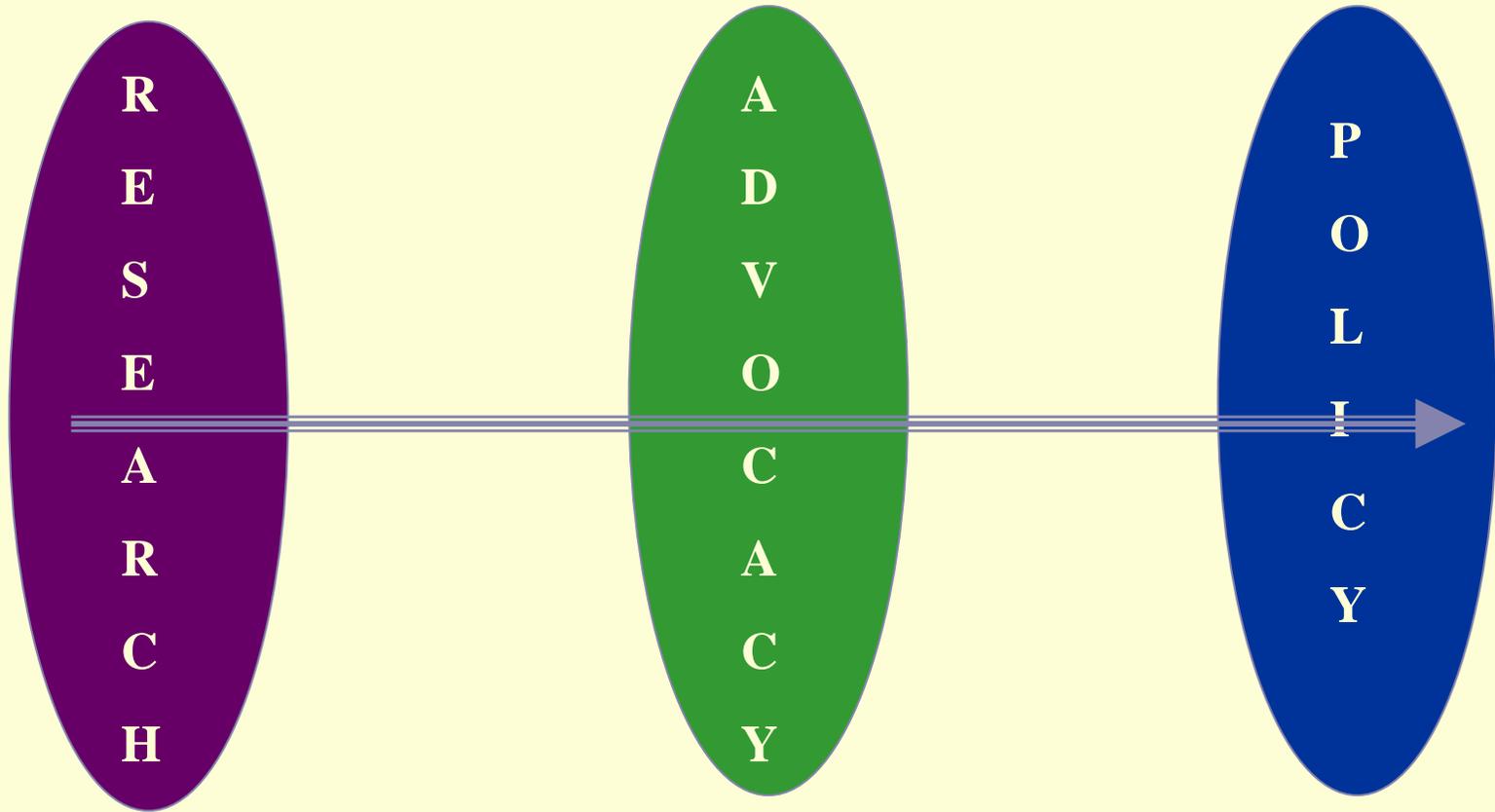
- Total projected deaths 10.4 million
- Chronic disease death 5.5 million
- 60 million deaths over the next decade
- Communicable disease deaths reduction by 15 %
- Deaths from diabetes increase by 35%



# National Programs for NCD

- **National Program for the Prevention and Control of Blindness**
  - **National Cancer Control Program**
  - **National District Mental Health Program**
  - **National Policy for the Elderly**
  
  - **National Program for CVD, Diabetes & Stroke**
  
  - **Rehabilitation program- Accident & Trauma**
  - **Oral Health Program**
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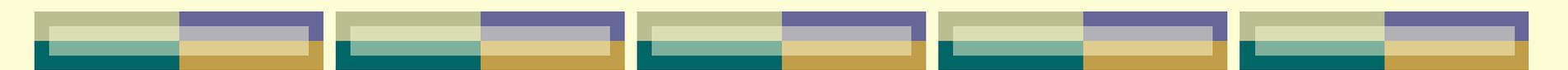
# Vision for NCD Surveillance





# Background

- Lack of standardized community based data from various regions of country
  - 2001 - ICMR identified as Nodal agency by WHO & Govt. of India to undertake NCD RFS
  - Identification of key partners in NCD surveillance to expand it at a National level
  - The WHO STEPwise approach to Surveillance
    - **addresses a step wise collection of data depending on capacity & resources**
    - **permits a reasonable amount of flexibility**
    - **provides opportunity for international comparison of data**
- 



# Challenge Tackled at Policy Level

Interpretation of STEPS data as representative of the prevalence of various parameters in the community

need to differentiate between 'survey' and 'surveillance'





# Development of Sentinel Health Monitoring Centers In India, 2003-05 (ICMR-WHO Collaboration)

- Goal: To develop a sustainable system for NCD Surveillance in India
  - Aim: To set up Regional Sentinel Health Monitoring Centers
  - 6 sites; 15-64 years (decadal age groups)  
Urban/Rural/Slum; M/F
  - 44800 respondents (STEP 3 in 20% sub-sample)
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# Risk Factors Studied

- Alcohol consumption



- Tobacco consumption



- Inadequate intake of fruits & vegetables



- Physical inactivity

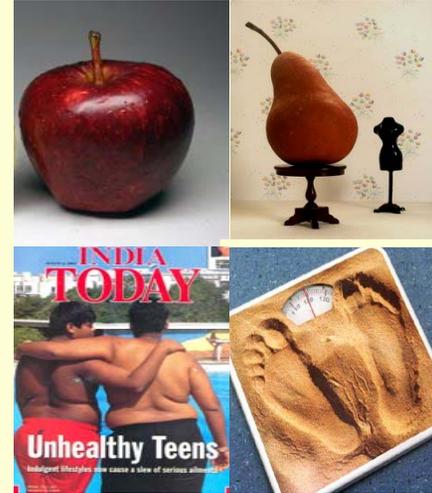


- Obesity

- Body Mass Index (BMI)

- Waist circumference

- Elevated blood pressure



- Biochemical Parameters (Fasting)

- Lipids

- Total Cholesterol

- HDL cholesterol

- Triglycerides

- Plasma glucose

## Rich Sources of Cholesterol

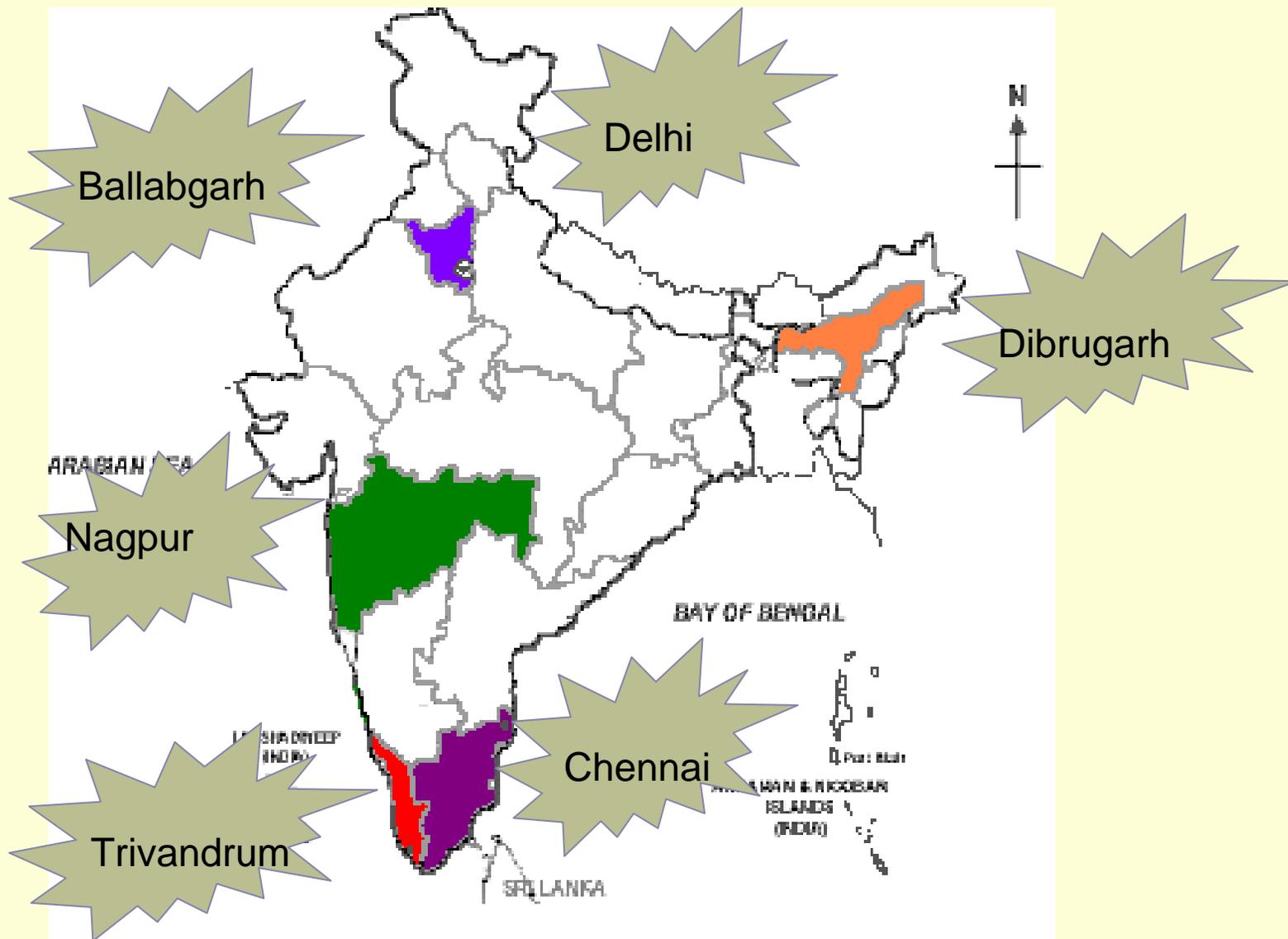


## Poor Sources of Cholesterol



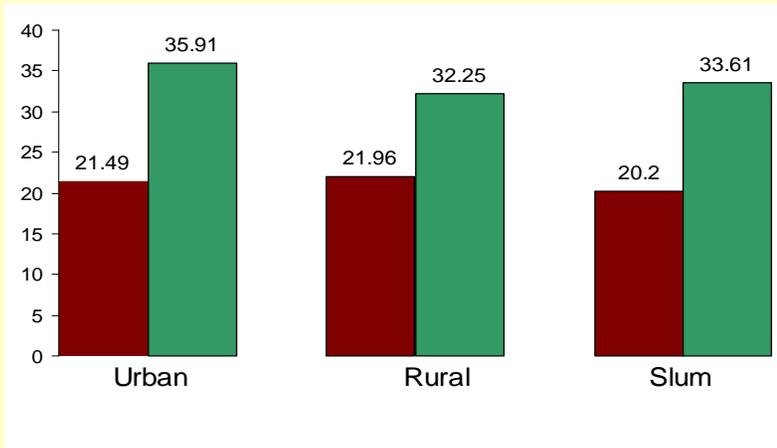
# ICMR's NCD Risk Factor Surveillance Centers in India

Coordinating Unit : Division of NCD, ICMR

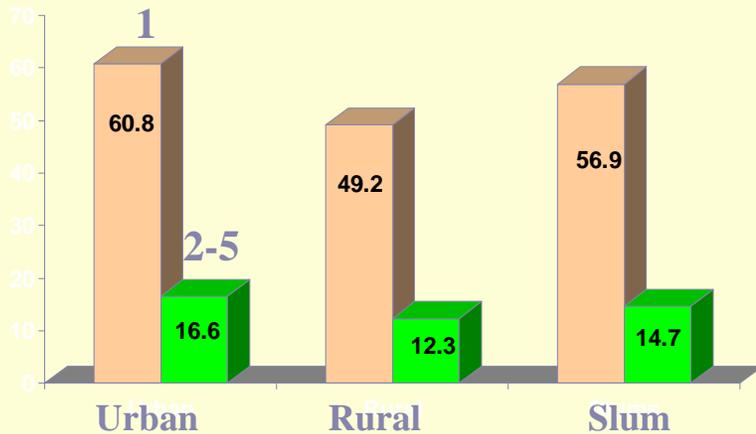
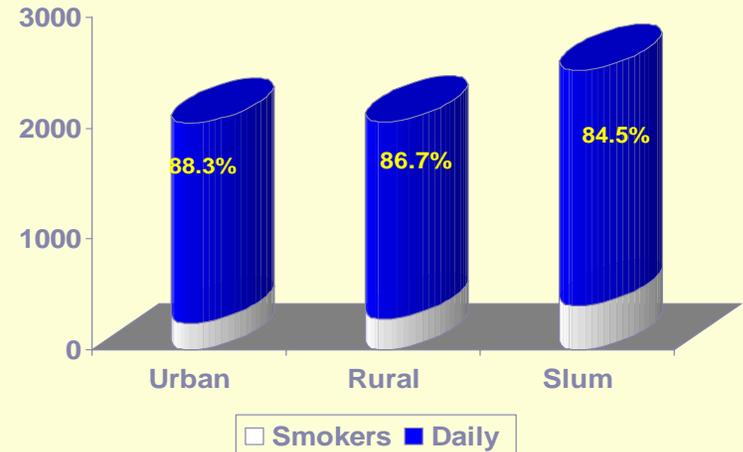


# ICMR-WHO NCD RF Study: Glimpses of Results

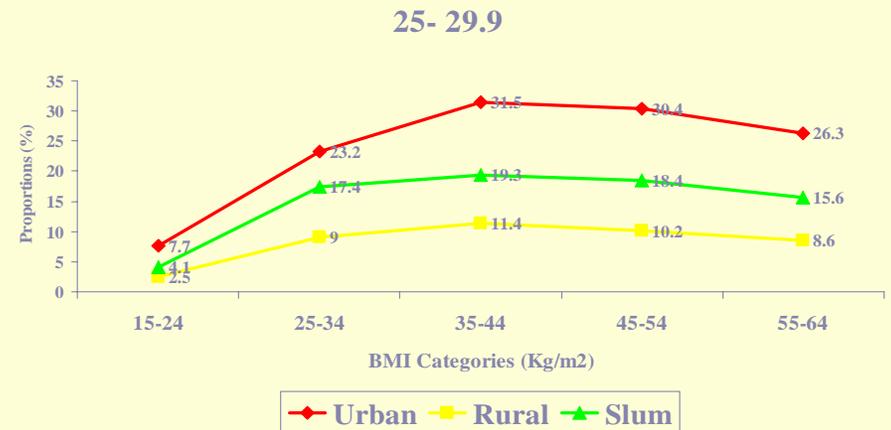
## Age at Initiation of Smoking



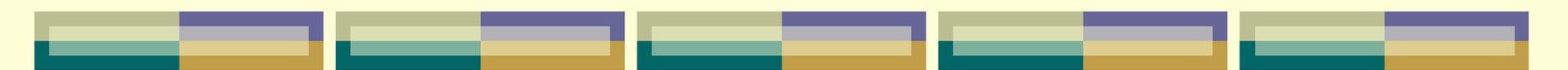
## % daily smokers amongst current smokers



## Servings of Fruit Consumption/day

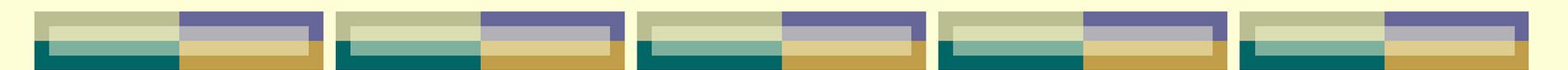


## BMI: Overweight



# Quality Assurance

- Common protocol
  - Field staff training by the centre PI
  - Adapted Questionnaire was translated into local language and back translated
  - Central supply of instruments
  - Site visits and close monitoring through
    - Telephone, fax, e mails, frequent meetings
- 



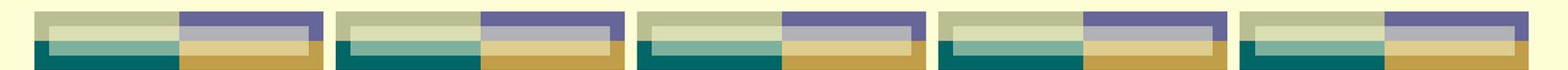
# Quality Assurance

- Common data entry template in Epi-info 6.0 developed and distributed
  - 10% double data entry
  - Centre specific data analysis and reporting
  - Combined data analysis in SPSS (12.0) by the central coordinating unit
- 



# Leveraging Research to National Action Plan

- Identification of experienced partners in 5 regions of India
  - Data collected through a uniform study protocol in a time frame
  - Team of investigators at local & regional levels
  - Locally relevant translated study instrument & field manual
  - Strong coordination, monitoring, supervision, data management
  - Commitment of participating institutions
  - Interaction with planners, policy makers & International agencies
  - Developed a template for National NCD RF Surveillance
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# The Concept of IDSP (Integrated Disease Surveillance Program)

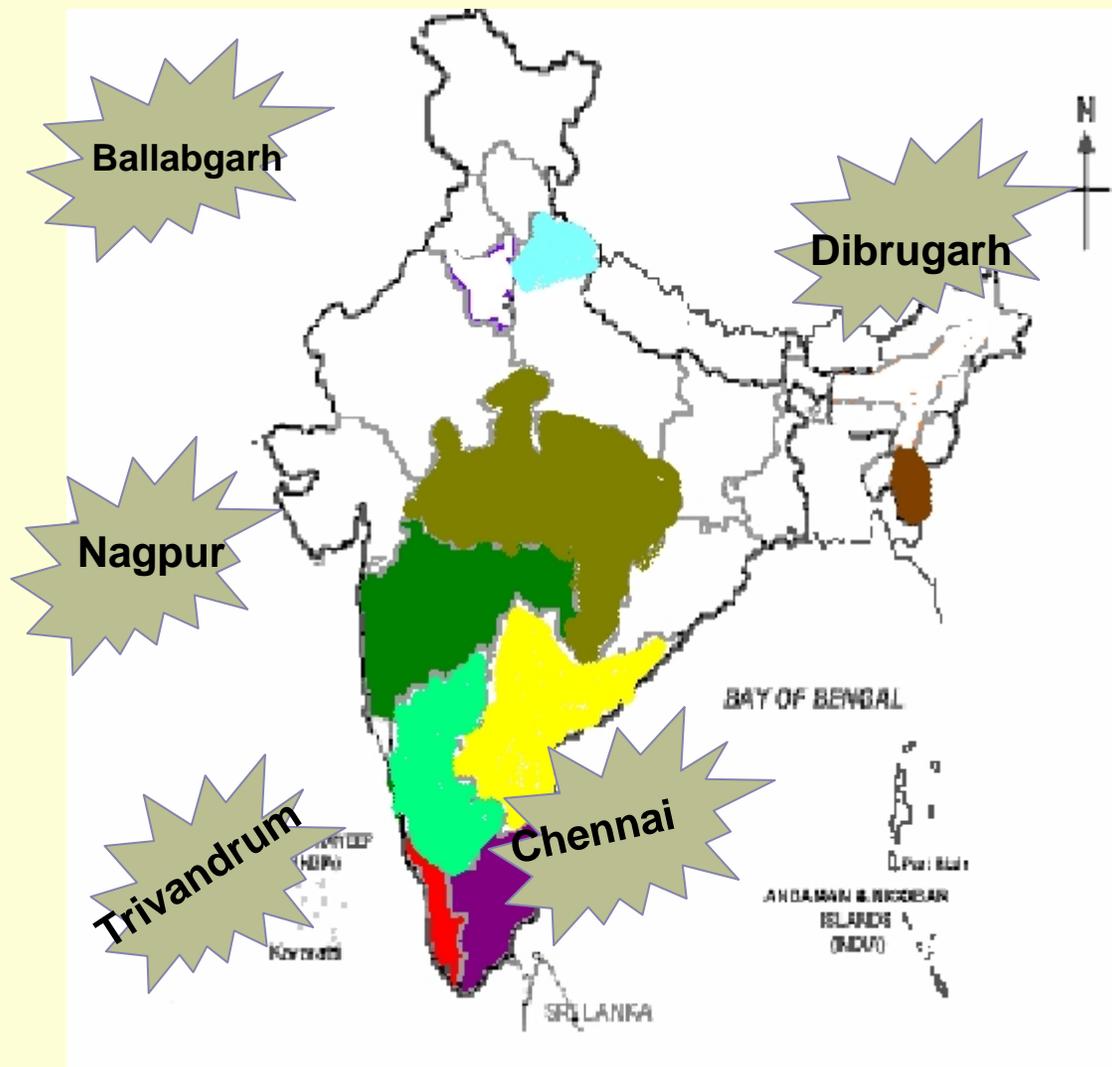
- World Bank funded project through Ministry of Health
    - Thereafter to be run by the Govt. of India (National Rural Health Mission)
  - Decentralized
  - Integrated
  - Action oriented
  - Brings together communicable and NCD under one surveillance activity.
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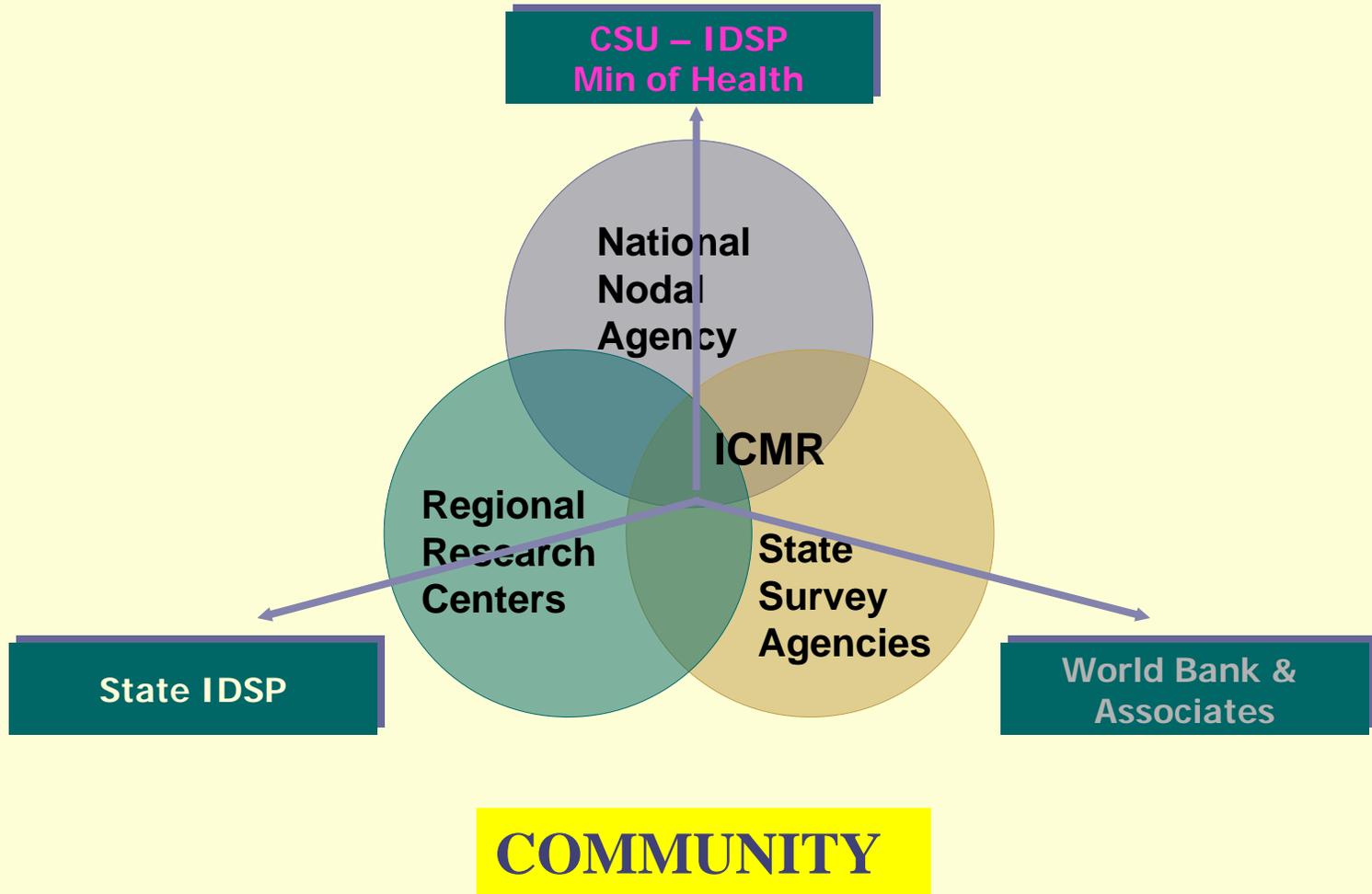
# NCD Risk Factor Surveys under IDSP: ICMRs Resource Centers

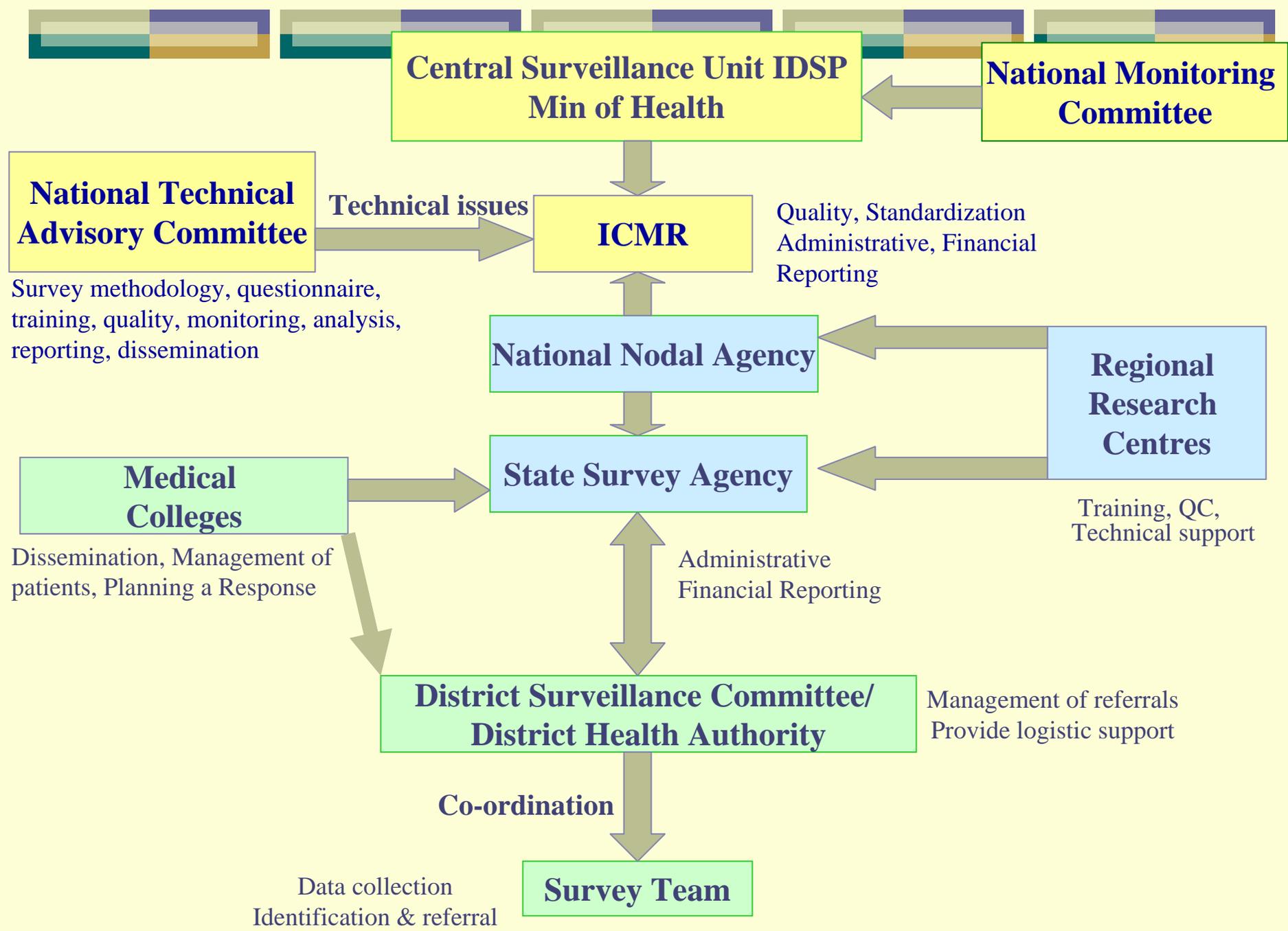
## 8 States being covered under Phase I of IDSP

- Andhra Pradesh
- Karnataka
- Kerala
- TamilNadu
- Maharashtra
- Madhya Pradesh
- Uttaranchal
- Mizoram



# Stakeholders







## Study Areas

- Urban and Rural

## Study Population

- Males and females aged between 15-64 years in the selected urban and rural areas

## Study design

- Cross sectional survey (to be repeated every 3-5 yrs)

## Sampling Strategy

- Multi-stage systematic cluster sampling technique

## 3 sections

- Check list of household members and eligibility
- Household information on SE parameters
- Individual respondents questionnaire

## Common protocol

- Standardized training
- Standardized survey methods
- Monitoring and coordinating set ups
- Advisory Group and Resources
- Site visits
- Common data management mechanisms
- Critical appraisal



# PUBLIC HEALTH INTERVENTIONS

**Policy Interventions**

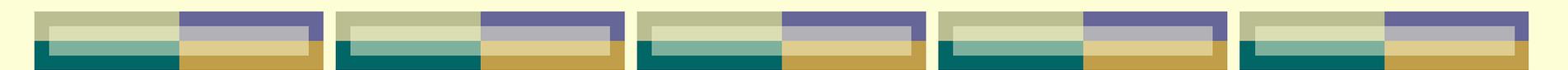
**Educational Interventions**

**Enabling Environment**  
**(Financial, Social, Physical)**

**Health Beliefs and Behaviours**  
**(Community; Individual)**

**Desired Change**





# The Future of NCD Surveillance in India

- Integrating laboratory parameters in surveillance
  - State level NCD Policy
  - Community based intervention programs
  - Disease surveillance
  - Integral part of the soon to be launched National Program on Cardiovascular Diseases, Diabetes and Stroke
  - Linkages with Health databases
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- **NCD cell at the centre**
- **State NCD cells established in all the States**
- **100 Medical Colleges and 200 Districts with capacity for NCD prevention & management**
- **20 Resource Centres established**
- **IEC strategy implemented**
- **Health sector personnel trained in NCD**
- **Surveillance of risk factors initiated and sustained - linkages with IDSP.**

## National Programme for Prevention and Control of Diabetes, Cardiovascular Diseases and Stroke (NPCDCS)



# NCD Surveillance Team at ICMR

- **Dr NK Ganguly**
  - Director General, ICMR
- **Dr Bela Shah**
  - Chief, Division of NCD
- **Dr DK Shukla**
  - Deputy Director General
- **Dr Prashant Mathur**
  - Assistant Director General & Program Officer, NCD Surveillance
- **Dr Geetha Menon**
  - Research Officer



- **Investigators**
  - K Anand – Ballabgarh
  - V Mohan – Chennai
  - J Mahanta – Dibrugarh
  - NG Desai – Delhi
  - PP Joshi – Nagpur
  - KR Thankappan - Trivandrum
- **Advisory Committee**
  - LM Nath
  - KS Reddy
  - RM Pandey
  - MG Karmarkar
  - Padam Singh
  - SK Pradhan

# Hope on the Horizon for NCDs!!



THANK YOU !