

## Disease surveillance strengthening activities - past, present & future

CDS Cluster  
WHO India



## Key areas of activity



- Human Capacity Building
- Standard Manuals/ Guidelines developed for IDSP/ NSPCD
- Strengthening of Disease Surveillance & Outbreak Investigation
- Development and Testing of Monitoring & Evaluation Integration Assessment Tools
- Networking & Coordination
- Post Disaster Disease Surveillance
- Curriculum Development for 2 year FETP
- International Health Regulations

# Human capacity building

- Field Epidemiology Trainings
  - 2 years FETP (NIE and NICD)
  - 3 months Regional FETP (NICD)
  - 1 month Regional for Paramedics
- Training in Epidemic Preparedness and Response
  - 10 days training by NIE
  - 6 days training by NICD
- Training of State Rapid Response Teams (RRTs)
- Training in use of Computers for Epidemiology
- Post Disaster Disease Surveillance trainings
  - Specialized trainings in
    - Zoonosis
    - Plague
    - Rabies
    - Malaria Entomology & Parasitology

## ACTIVITIES PLANNED:



# Standard Manuals/Guidelines

- IDSP Operations Manual
  - development, field testing & piloting
- Guidelines for Epidemiological support for Post-Disaster Disease Surveillance
- CD Alerts

Development and use of NSPCD assessment protocol



# Strengthening Disease Surveillance

- Establishment of NSPCD/ IDSP Cell at NICD with
  - Epidemiologist
  - Microbiologist
  - Data Entry Operators
- Establishment of Rapid Response Teams at district and state levels
- Support to NICD website [www.nicd.org](http://www.nicd.org)

## ACTIVITIES PLANNED:



# Monitoring & Evaluation

- Technical support to NSPCD, IDSP and CDS cluster
- Development and testing of Monitoring & Evaluation Tools
- Development of Integration assessment tools
- Development and use of NSPCD assessment protocol
- Monitoring visits to NSPCD/ IDSP states/districts

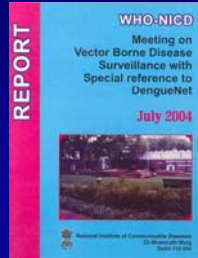
## ACTIVITIES PLANNED:

- Continued technical support to NSPCD, IDSP, CDS



# Networking & Coordination

- Weekly outbreak news by e-newsletter
- Printing and distribution of CD Alert to all 600 districts
- Meeting of WHO Collaborating and Referral institutes for training in epidemiology 26-28 July 2005
- Areas of collaboration and networking identified for support to
  - IDSP
  - Outbreak investigation
  - IHR
  - Post disaster disease surveillance
- Support to National Influenza Pandemic Preparedness Plan
- Inter-State plague coordination meetings
- NSPCD review meetings
- Support to DengueNet



# PUBLIC HEALTH LABORATORY NETWORK STRENGTHENING

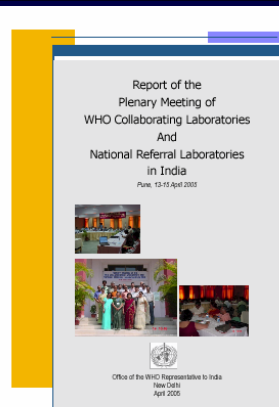
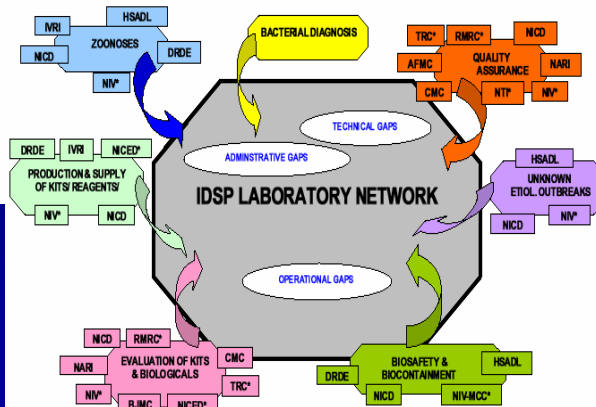


Figure 1: PROPOSED NETWORKING OF REFERRAL LABORATORIES

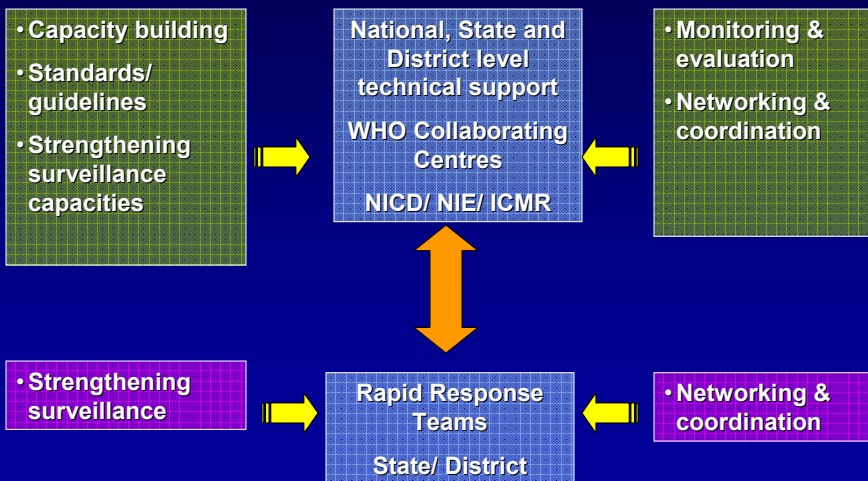


\*WHO Collaborating Laboratories

# International Health Regulations



## WHO India support to Disease Surveillance



# Financial allocations

## Regular budget

Biennium	Funds allocation (USD)
2002-03	700,000
2004-05	500,000
2006-07	500,000

## Extra-budgetary support

Year	Funds allocation (USD)
2004	1,000,000
2005	Nil
2006*	1,000,000

\*Expected

# Human resource support

Year	Number of specialists at NSPCD/IDSP Cell	Capacity
2001	1	National Consultant (Microbiology)
2002	2	National Consultants (Microbiology, Epidemiology)
2003	2	NPO Epidemiology National Consultant (Microbiology)
2004	2	National Consultants (Laboratory Surveillance, Microbiology)
2005	2	NPO Epidemiology National Consultant (Laboratory Surveillance)

# CAPACITY BUILDING



## Epidemiology trainings

- FETP
- EPR
- Post-disaster surveillance



**Standard guidelines & manuals**

## HUMAN RESOURCE DEVELOPMENT

## Lab trainings:

- Basic lab techniques
- Molecular epidemiology
- Quality assurance
- Zoonotic infections

## Data management:

- Computerization
- expert software

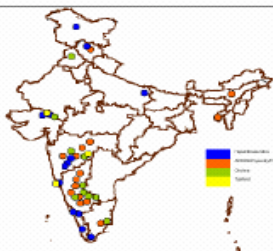
## Entomology trainings:

- Trainings in malariology
- Surveillance of vector borne diseases

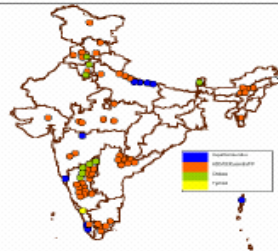


## WATER BORNE DISEASE OUTBREAKS REPORTED BY NSPCD DISTRICTS 2002-2005

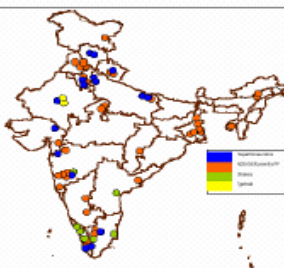
Water Borne Disease Outbreaks - 2002



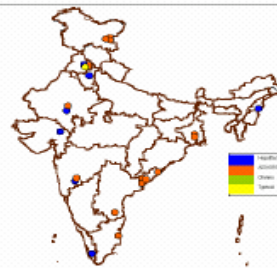
Water Borne Disease Outbreaks - 2003



Water Borne Disease Outbreaks - 2004

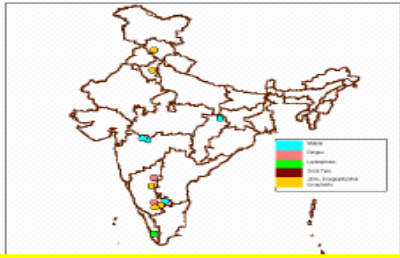


Water Borne Disease Outbreaks - as of June 2005

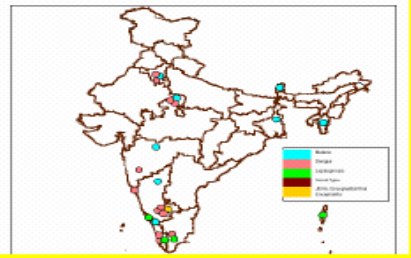


**VECTOR BORNE DISEASE OUTBREAKS REPORTED BY NSPCD DISTRICTS 2002-2005**

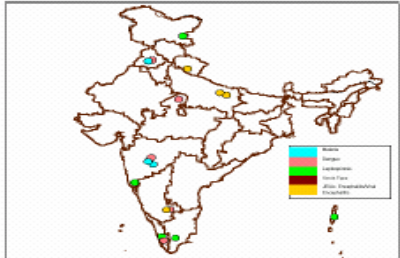
**Vector Borne Disease Outbreaks - 2002**



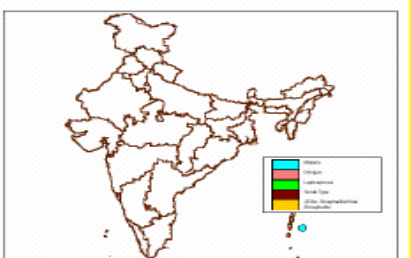
**Vector Borne Disease Outbreaks - 2003**



**Vector Borne Disease Outbreaks - 2004**



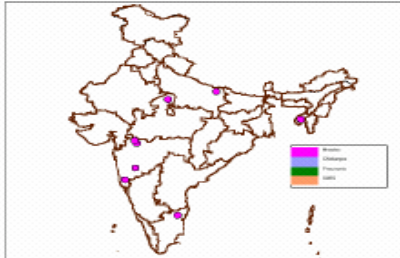
**Vector Borne Disease Outbreaks - as of June 2005**



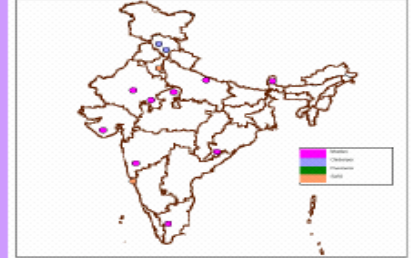
WHO India

**AIR BORNE DISEASE OUTBREAKS REPORTED BY NSPCD DISTRICTS 2002-2005**

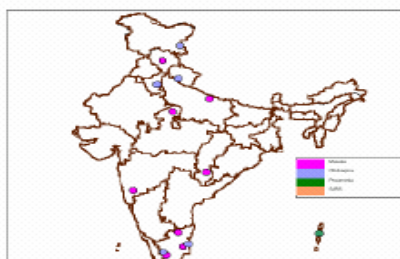
**Airborne Disease Outbreaks - 2002**



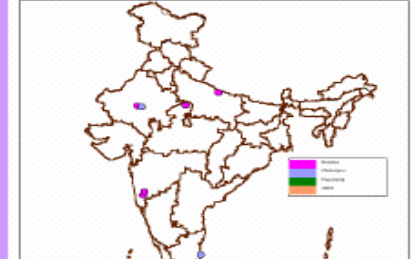
**Airborne Disease Outbreaks - 2003**



**Airborne Disease Outbreaks - 2004**

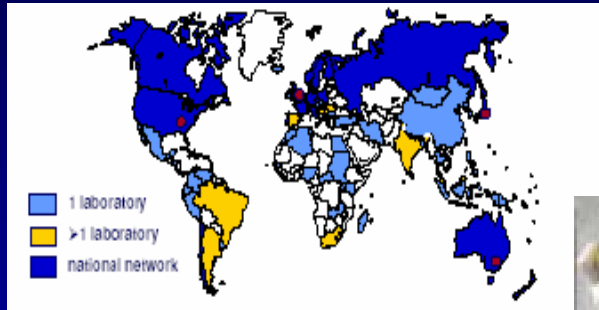


**Airborne Disease Outbreaks - as of June 2005**



# WHO Global Surveillance of Human Influenza

## Participating networks and laboratories



115 National Influenza Centres, 7 WHO collaborating centres and 4 Referral laboratories

175-220k samples, 15-40k isolates, 2-10,000 viruses characterized



# WHO International Surveillance Network



In 1997 WHO launched FluNet, a web-based GIS with a remote data entry component, which allows real-time access to the latest country-specific data on circulating strains and epidemiological trends

Web-based tool for the global monitoring of influenza activity

Procedure of vaccine strain selection

Sentinel Center

National Influenza Center  
(115 laboratories in 80 countries)

Reference Collaborative Centers  
(London, Atlanta, Tokyo and Melbourne)

(WHO - Geneva)

Production Industry



Hannoun C. Role of international networks for the surveillance of influenza. Eur Journal of Epidemiol 1994;10:459-61

# IDHNet

General information including diseases under surveillance

Coordination committee

Role & responsibilities of participating sentinel laboratories

## **SURVEILLANCE COORDINATOR:**

- Routine surveillance activities as per the protocol
- Timely, accurate and complete communication among all surveillance sites
- Aggregation of data and generation of reports
- All other technical, administrative & logistical aspects related to surveillance within and in between the laboratories

## Networking of Infectious Disease Hospitals & NICD for Sentinel Surveillance of Infectious Diseases

### *Surveillance Protocol*

June 2005



National Institute of Communicable Diseases, Delhi  
Government of India  
Directorate General of Health Services

Standard reporting formats

List of tests

Testing and identification protocols

QA Mechanism

Specimen selection, collection and transport; specific protocols for packaging and shipping

Biosafety & bio-security

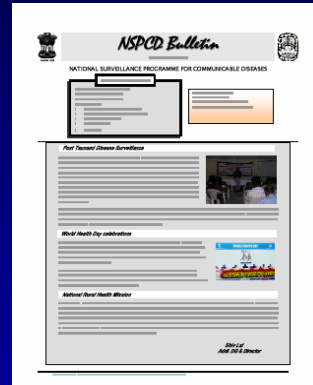
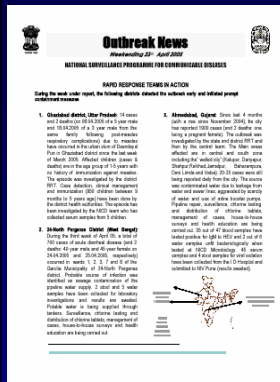
References and Resources

# Involvement of medical colleges

- Operational research projects in
  - Tamil Nadu
  - Kerala
  - Maharashtra
  - Rajasthan
  - Himachal Pradesh
- Involvement of other medical colleges in NSPCD & IDSP



# Feedback



- Weekly "Outbreak News"
- Monthly "NSPCD Bulletin"
- "CD Alert" (Monthly) circulated to all states & districts



# Vector Surveillance & Control

- Mosquito collection
- Anti-larval
- Insecticide spray
- Fogging
- Mosquito nets
- Insect repellants
- Community participation

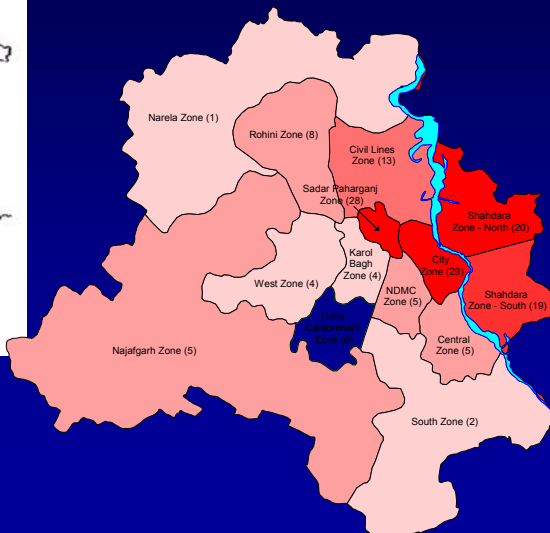


# OUTBREAKS



Plague in 1994, 2002, 2004

Distribution of Meningococcal Cases in Delhi by zone; as on 9 May 2005 (n=187)



# Outbreaks prevented

## SARS In India Before 01 May 2003

1 suspect case negative for SARS Co V.

4 suspect cases positive for SARS Co V (Pune 2, Delhi, Chennai)

18 healthy contacts positive for SARS Co V.

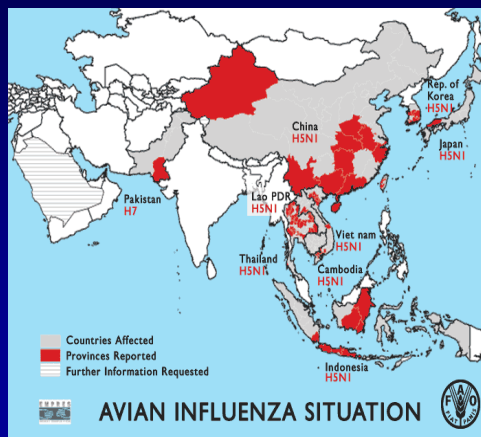
## After 01 May 2003

3 Probable (Gujarat, Karnataka & West Bengal) Only Kolkatta case with pneumonia. (Last case 6th May)

Nil deaths

5 Suspect cases. (Last case 02 June)

## Avian influenza



AVIAN INFLUENZA SITUATION

**Thank you**