

Syndromic Surveillance in Integrated Disease Surveillance Project (IDSP) and Pre Hospital Emergency Care in India

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Public Health Foundation of India (PHFI)



Presentation structure

- Background on Disease Surveillance in India
- Andhra Pradesh H1N1 scenario
- The Polio story

Acknowledgements

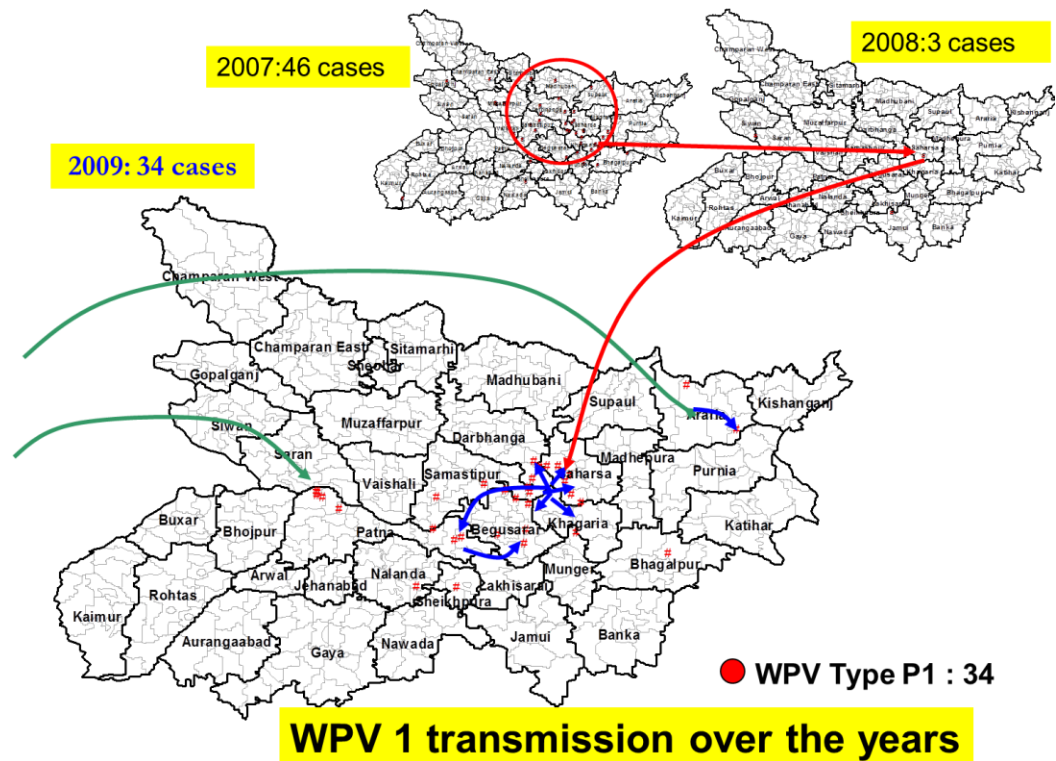
- Government of Andhra Pradesh, India, State Surveillance Unit
- Integrated Disease Surveillance Project – Resources – Disease Surveillance in India - Dr. Sampath K Krishnan www.idsp.nic.in
- Resources from - World Health Organization – National Polio Surveillance Project, India www.npsuindia.org
- Press Information Bureau, Government of India www.pib.nic.in

Coordinates – Saharsa, Bihar, India

25.89786 **Latitude** and 86.58671 **Longitude**



Photo courtesy: BMGF



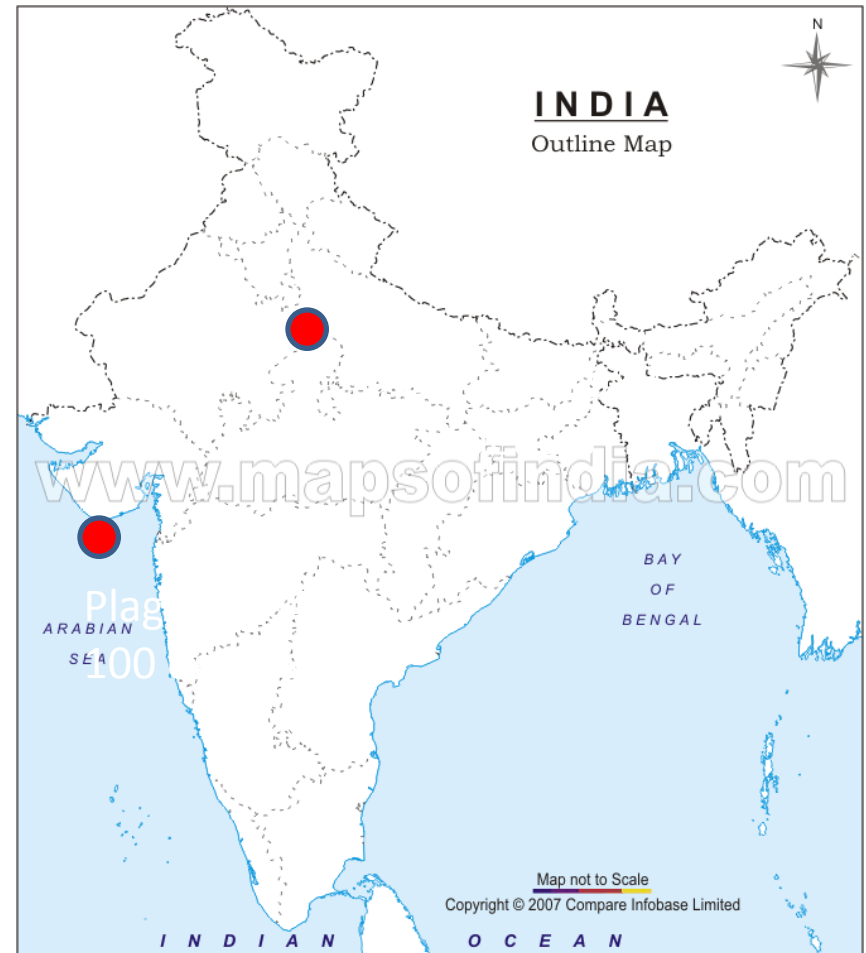
Picture courtesy: NPSP-India

Disease surveillance in India

- Disease surveillance in India has always been practiced by the states (health being a state subject)
- Many gaps, different states differ in degree and quality of surveillance, different priorities in diseases, lack of uniformity
- Till 1997, disease surveillance was component of disease specific national health programs

Need for National Disease Surveillance

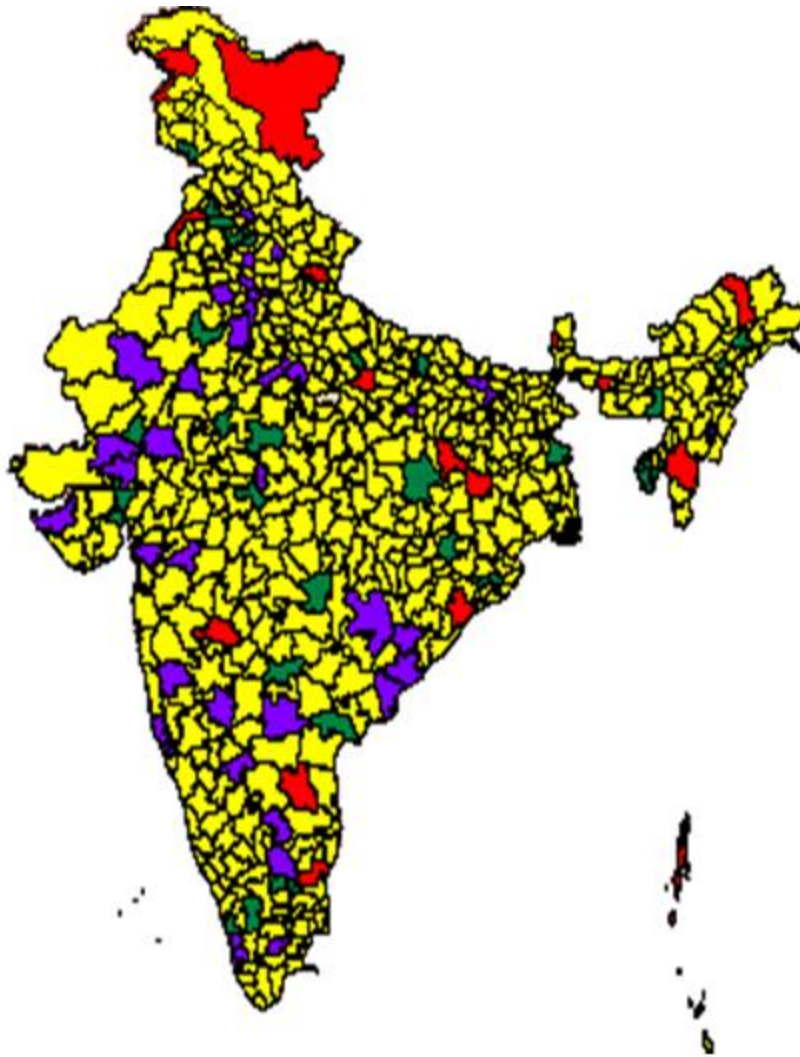
- Importance of disease surveillance was realized only after the Cholera outbreak in Delhi (1988- about 1500 deaths) and the Plague outbreak in Surat (1994- about 100 deaths).
 - Significant mortality and morbidity
 - Severe economic consequences







National Surveillance Programme for Communicable Diseases (NSPCD)

- NSPCD was therefore launched by the Centre in 1997-98 in 5 pilot districts of the country (centrally funded) and over the years extended to cover 101 districts in all 35 states and UTs in the country.
- This programme was based on outbreak reporting (as and when outbreaks occur) with weekly reporting of epidemic prone diseases directly from districts (including nil reporting) to the Centre.

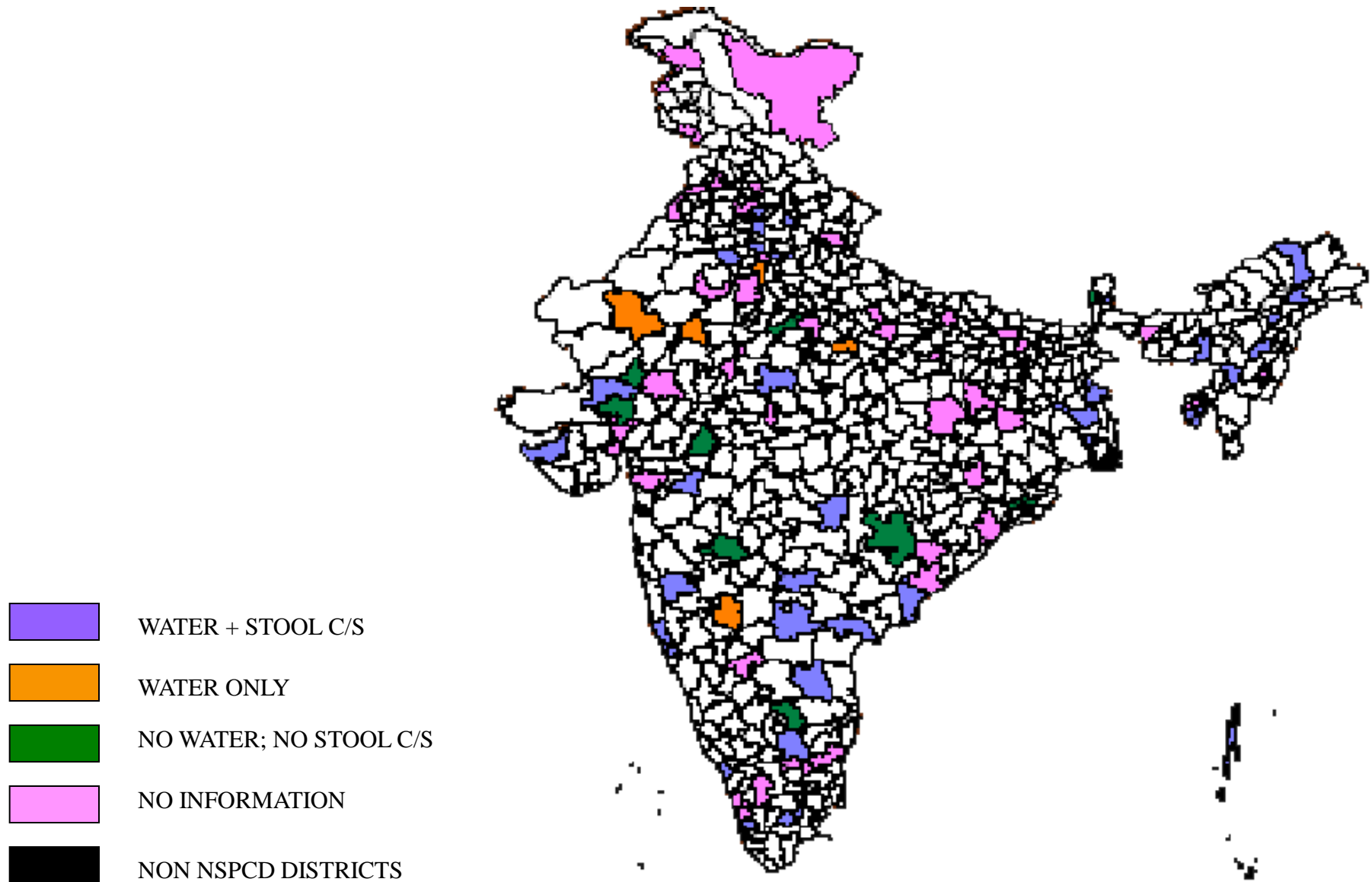
Districts covered under NSPCD



	1997-98 (25 districts)
	1998-99 (20 districts)
	2000-01 (35 districts)
	2001- 02 (20+1 districts*)

* The district of Shimla taken as a special case during 2002-03

NSPCD Districts & Laboratories Status

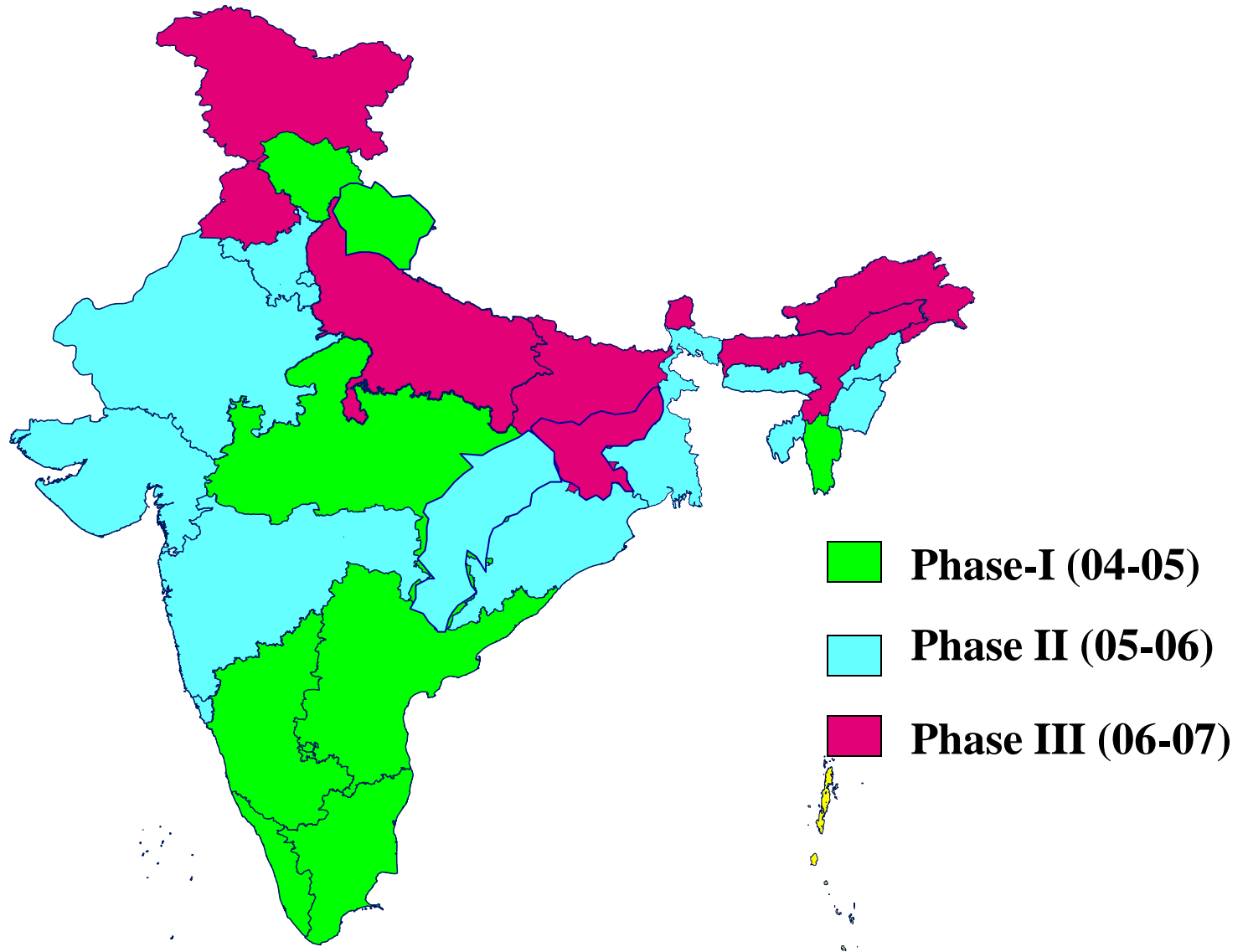


Information from www.idsp.nic.in

NSPCD to Integrated Disease Surveillance Project (IDSP)

- NSPCD significantly improved the capacity to detect investigate and respond to outbreaks, yet It was not case based & did not give complete picture of disease burden in the country
- Thus Integrated Disease Surveillance Project (IDSP) was conceptualized with the objectives:
 - To establish a **nation wide decentralized system of disease surveillance** for timely and effective public health action, and to
 - Improve the efficiency of disease surveillance for use in **health planning, management and evaluating control strategies**

Phasing of Integrated Disease Surveillance Project



3 Levels in IDSP

Frontline Health
Workers in Villages
– Health Centers

- **Syndromic Surveillance**

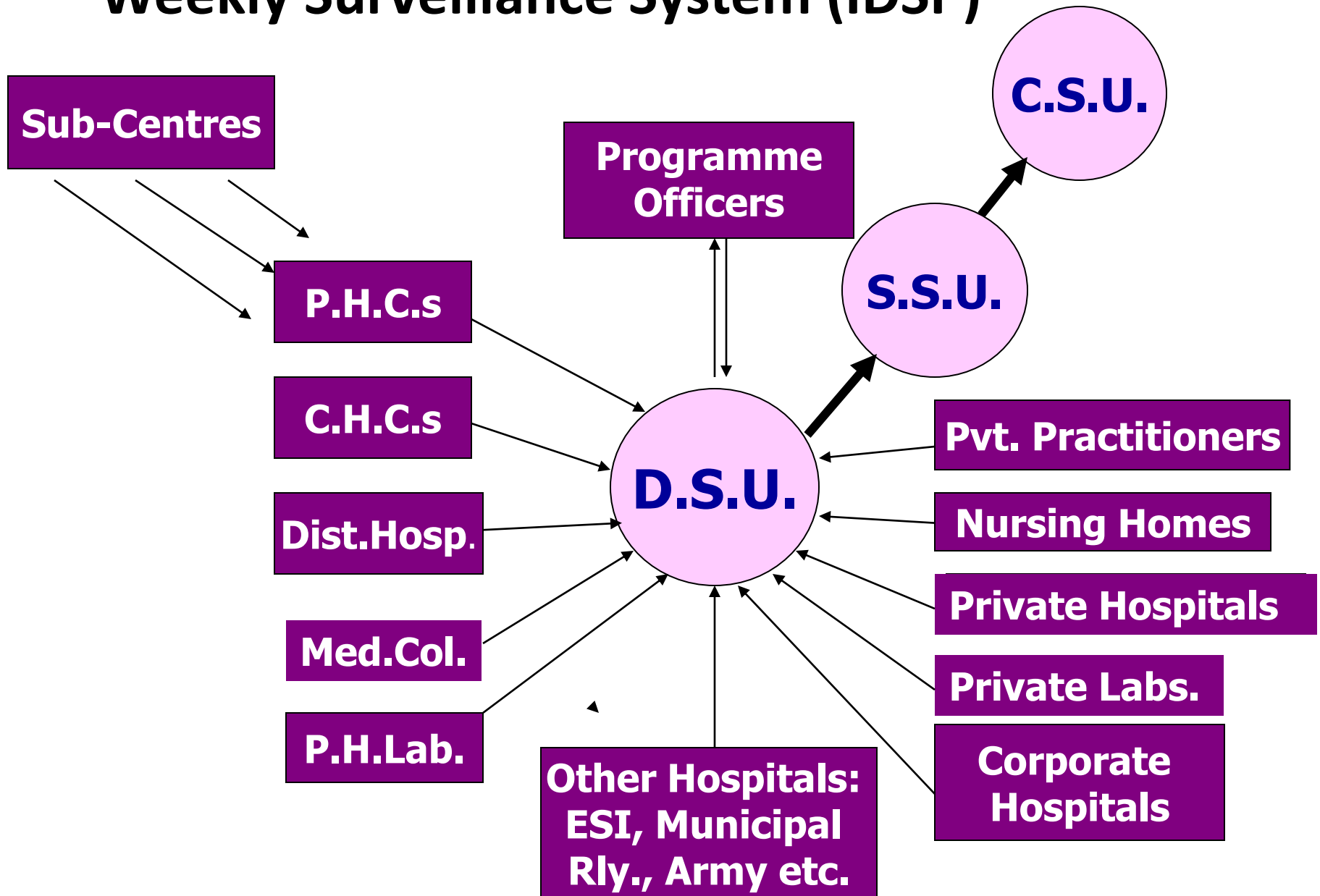
Health Facilities
with Physicians

- **Presumptive Surveillance**

Facilities with
Laboratory

- **Laboratory Surveillance**

Weekly Surveillance System (IDSP)



Target diseases in IDSP

Regular Weekly Surveillance

- Malaria
- ADD (**Cholera**)
- Typhoid
- Tuberculosis
- Measles
- **Polio**
- **Plague**
- **Unusual Syndromes**
- State Specific Diseases

Sentinel Surveillance

- HIV, HBV, HCV
- Accidents
- Water Quality
- Outdoor Air Quality

Community-based Surveys

- NCD Risk factors

State performance ranking – IDSP (June 2008)

(n=15 states)

Indicator	Performance
States reporting >10 outbreaks in a quarter	66%
Percent outbreaks confirmed and documented	2/3 states confirm <50% outbreaks 1/3 states confirm 25% outbreaks
Reporting from PHCs	53% states have <90% reporting 26% states have <60% report
Data analysis and feedback	No state where both state and district provide feedback 20% states only some district give feedback
Full time SSO	53% states 6m-1year 33% states <6m
State Lab Coordinator	80% states NO LAB COORDINATOR
Private sector reporting	Except Goa, all states have <50% reporting 50% states have <25% private sector reporting

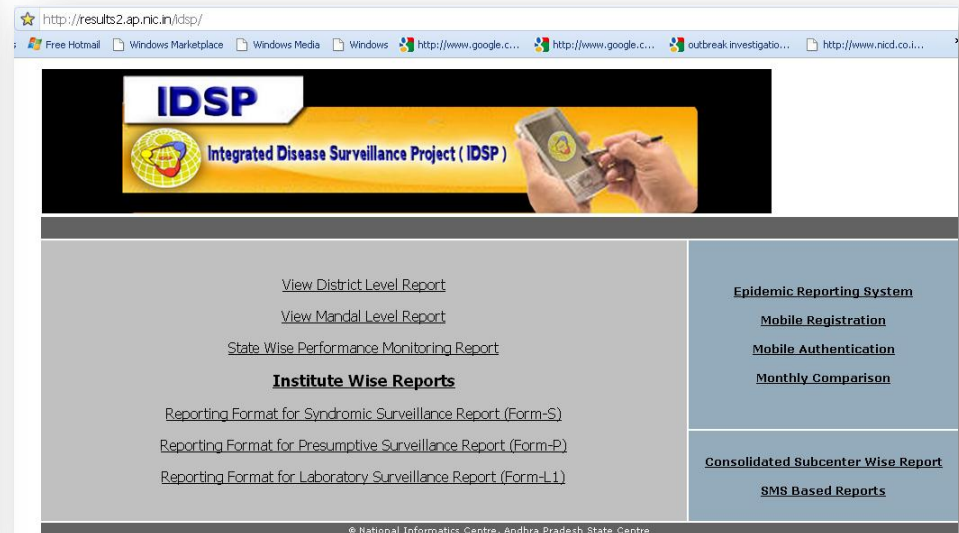
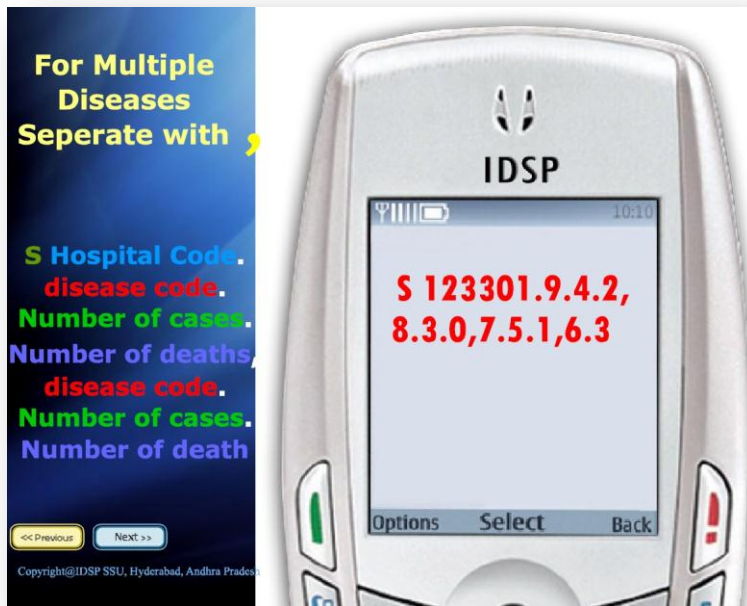
Far flung areas reporting poorly

Private sector reporting poorly

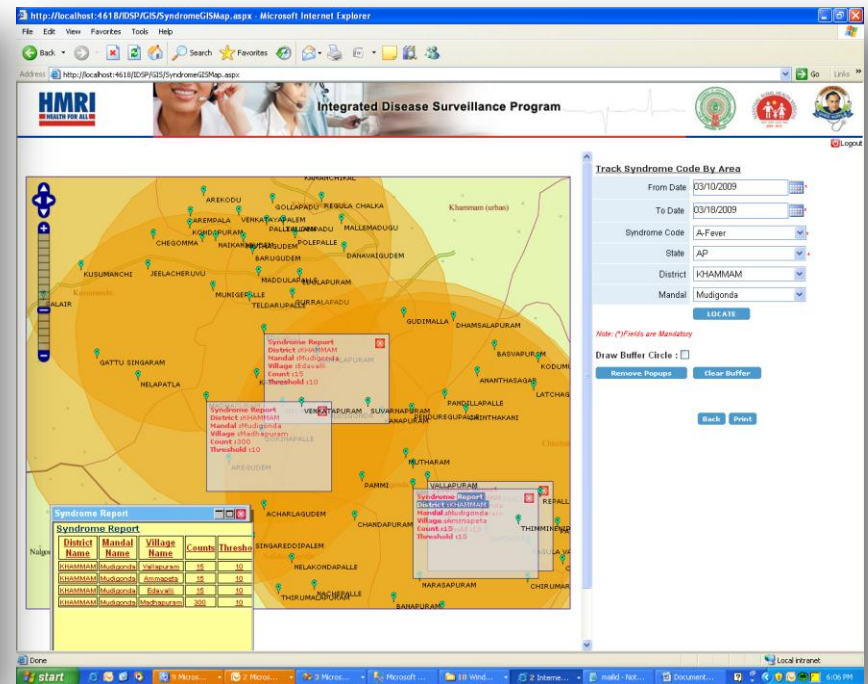
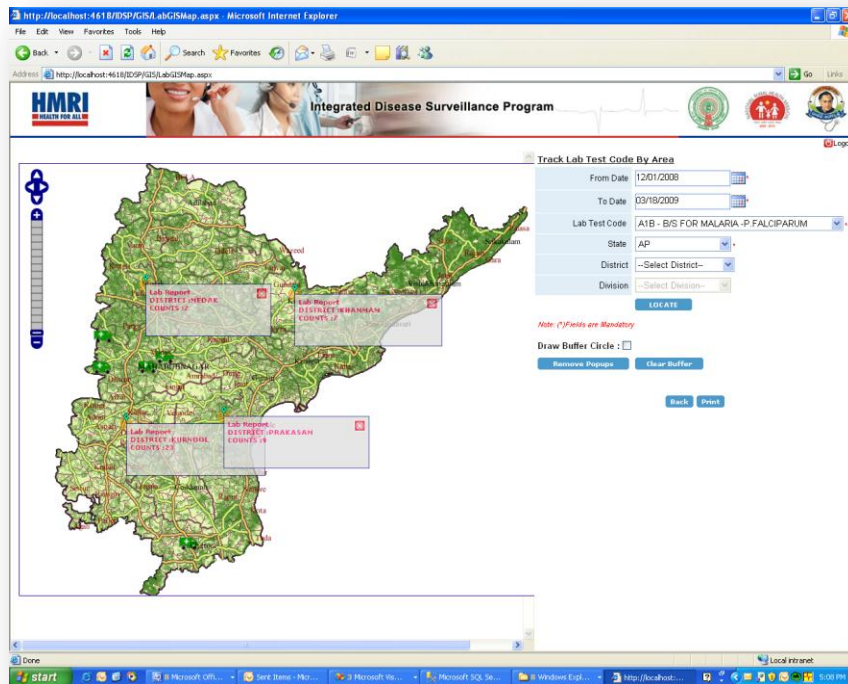
Overall performance: 40% states scored <50%

Information from www.idsp.nic.in

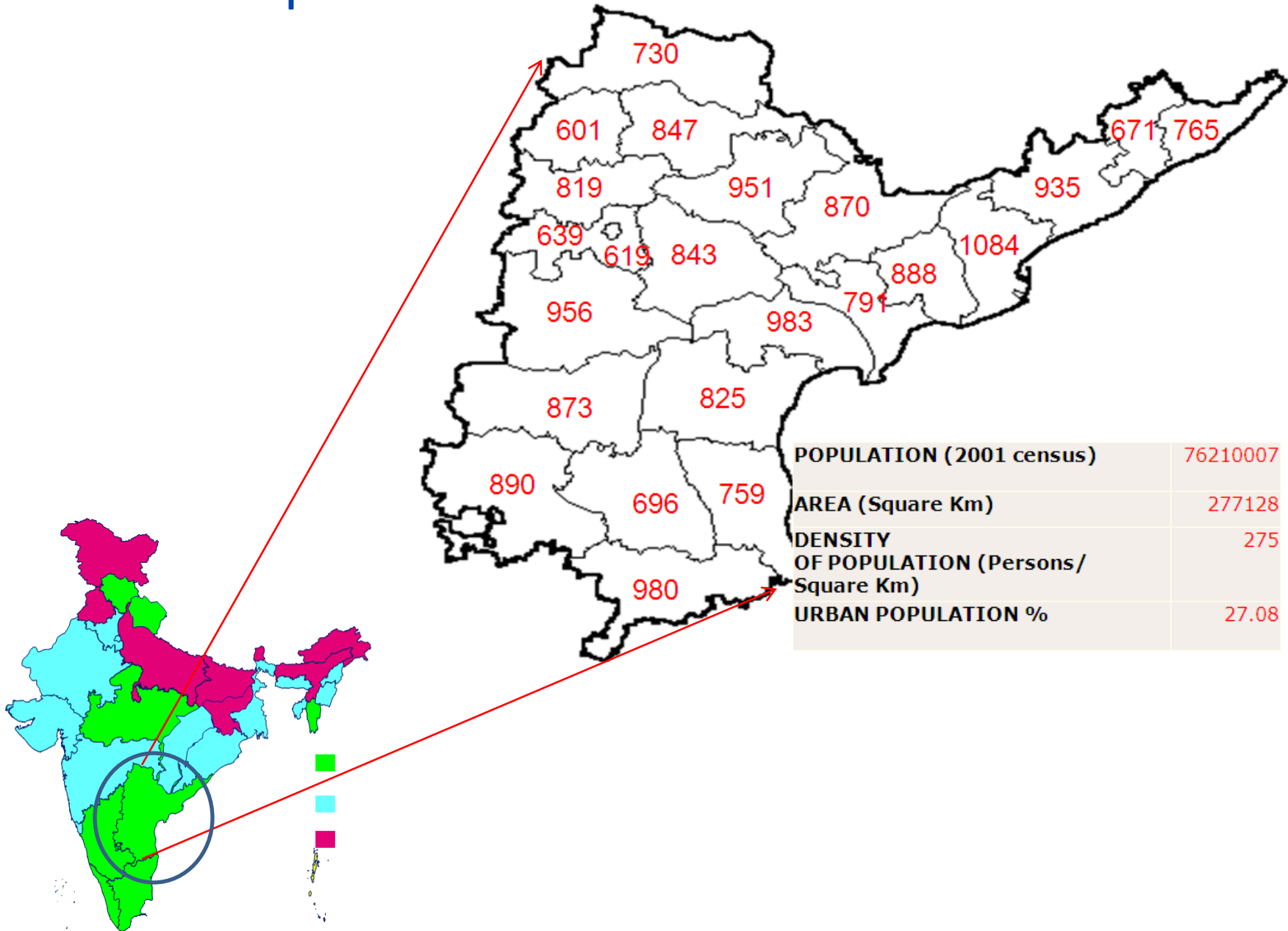
Pilot on Short Messaging Service (SMS) based IDSP



Pilot on Web based IDSP



Reporting sites - Andhra Pradesh



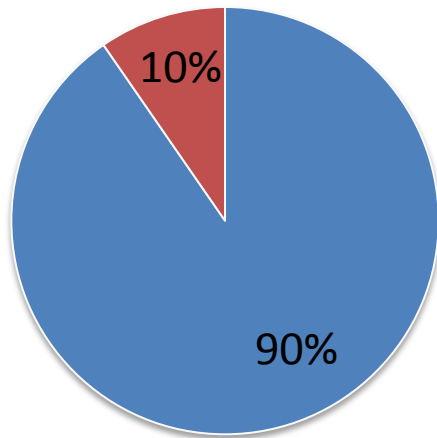
Lessons from H1N1



H1N1 +ve cases in 2009 from Andhra Pradesh

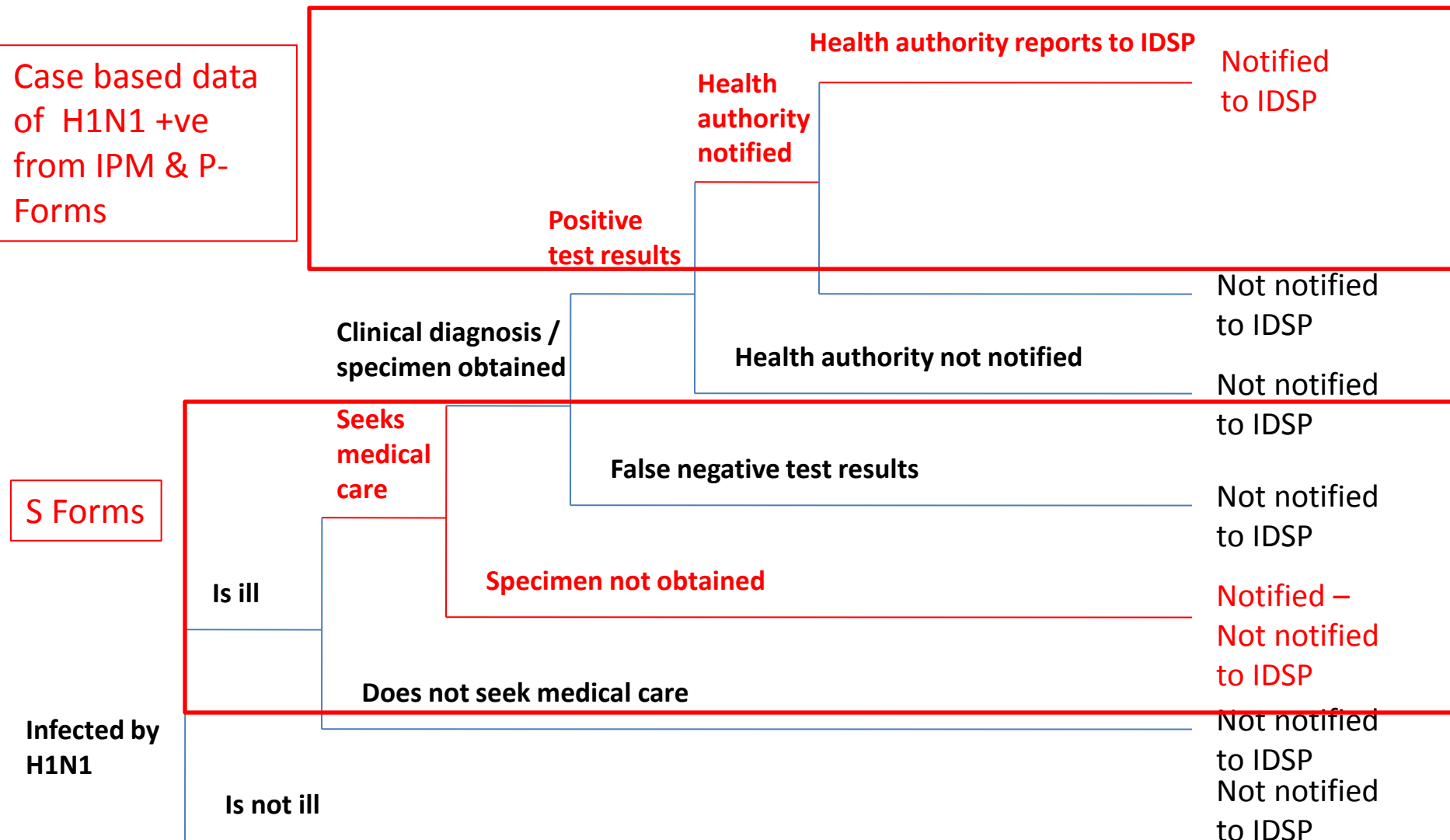
Reporting Districts for H1N1 +ve cases in 2009 (N=675)

- Hyderabad
- From rest of state (9 Districts)



- Of the 610 cases reported from Hyderabad – 450 (74%) were resident of Hyderabad
- Remaining 160 cases were from 14/23 districts in the state or from other states

Syndromic Surveillance and Case based reports correlation – H1N1 / Influenza like illness





सत्यमेव जयते



POLIO SUMMIT 2012

Organised by **Ministry of Health & Family Welfare, Govt. of India**
and **Rotary International**

25-26 February 2012
Vigyan Bhawan, New Delhi, India



Polio Summit – February 2012



Photo courtesy: www.pib.nic.in



Photo courtesy: www.pib.nic.in

NATURE | FROM SCIENTIFIC AMERICAN

India on track to be declared polio-free next month

The polio virus has disappeared from the country for 12 months, but it could still be re-imported from neighboring nations.

[Helen Branswell](#)

10 January 2012

An article from *Scientific American*.

In the mid-2000s, when scientists questioned whether the campaign to rid the world of polio could succeed, skeptics pointed to a problem that some called PAIN.



That stood for Pakistan, Afghanistan, India and Nigeria—the four countries that were stubbornly standing in the way of success. The four had never managed to stop the spread of polioviruses within their borders and continued to send viruses, like embers off a fire, to re-ignite outbreaks in places that had previously halted transmission.

Now it appears someone's going to need to craft a new mnemonic.

India, which once seemed likely to be the last country on Earth to rid itself of polio, appears to have succeeded ahead of Pakistan, Afghanistan and Nigeria in besting the crippling viruses. The last child paralyzed by polio in India got sick on January 13, 2011, and surveillance for wild polioviruses in sewage has not turned up the pathogen in more than a year.

If India produces 12 straight months of polio-free surveillance data, it will be removed from the list of countries where polio is considered endemic, leaving only the other three. A statement hailing that likely eventuality will be issued by the Global



A boy in Firozabad, Uttar Pradesh, India, shows his finger, painted to indicate he has just been

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"This is huge for us. It has taken more than a decade and tens of millions of health-workers, managers and a lot of mobilization to get to this point," says Hamid Jafari, project manager for the World Health Organization's National Polio Surveillance Project, based in New Delhi.

In the two poor northern states ...—Uttar Pradesh and Bihar—more than half a million babies are born every month. On the twice-annual national vaccination days, 2.3 million vaccinators visit 209 million households.

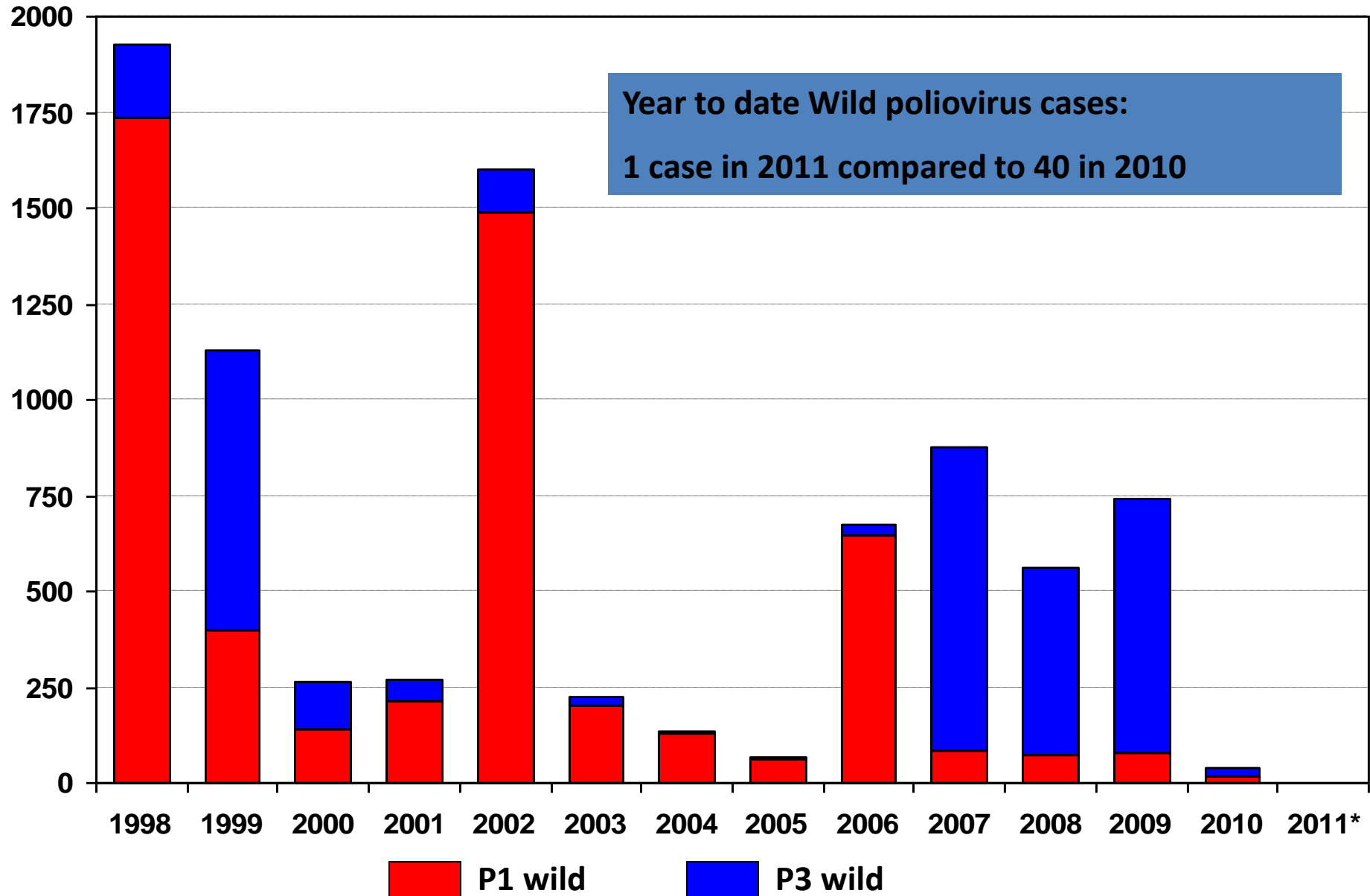
Location of wild poliovirus cases by type, 2011*



WPVs			
State	● P1	● P3	Total
West Bengal	1		1
Total	1		1

[Data from NPSP-India](#)

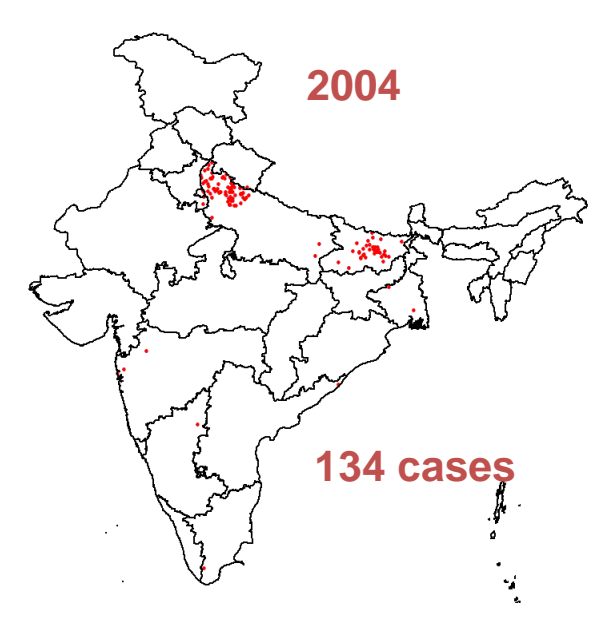
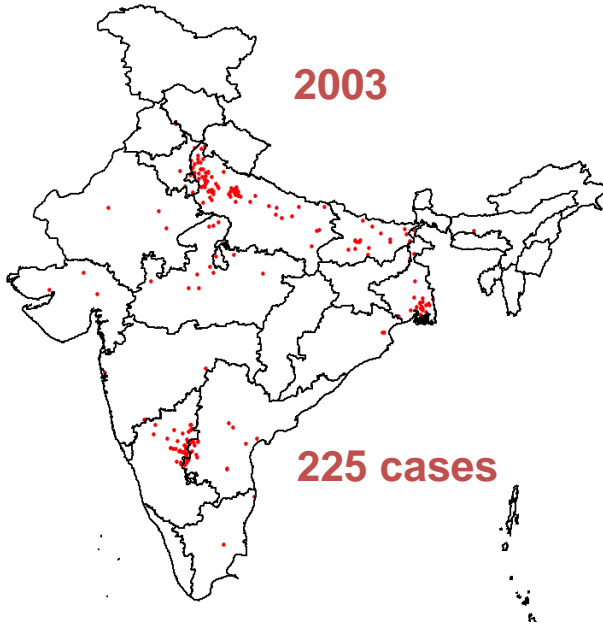
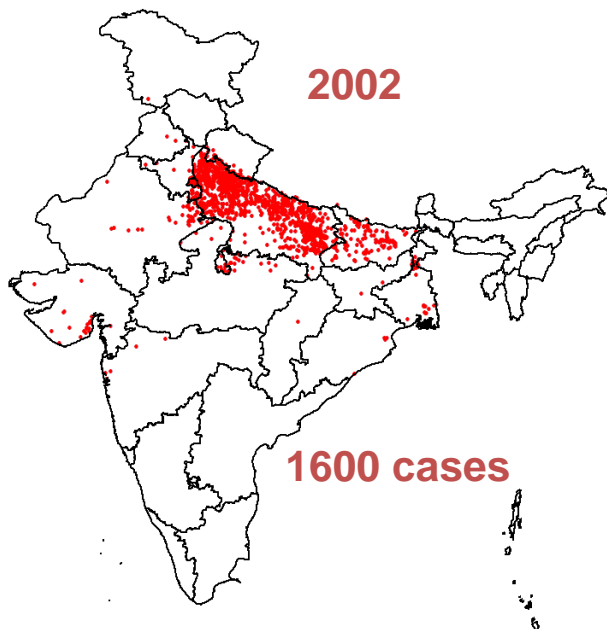
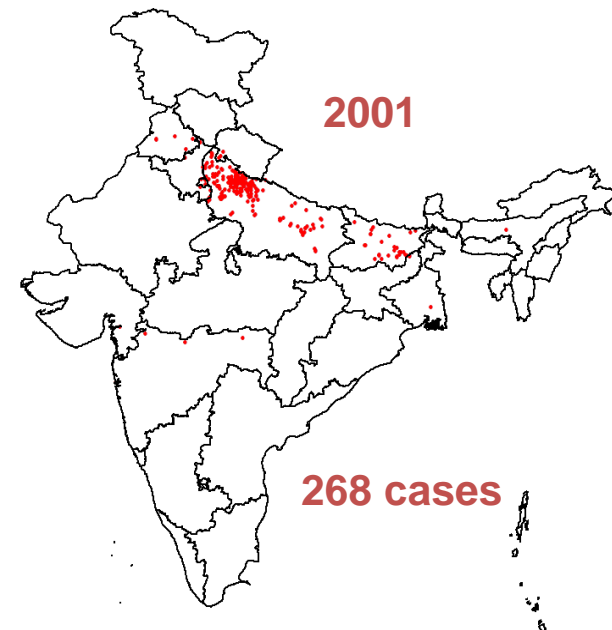
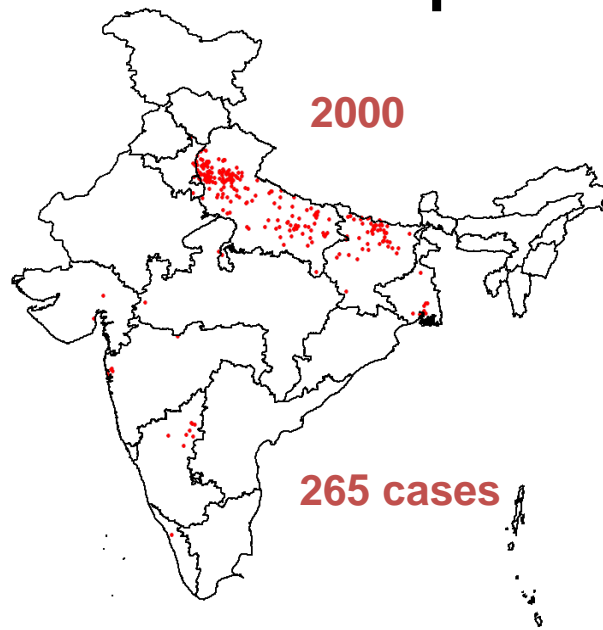
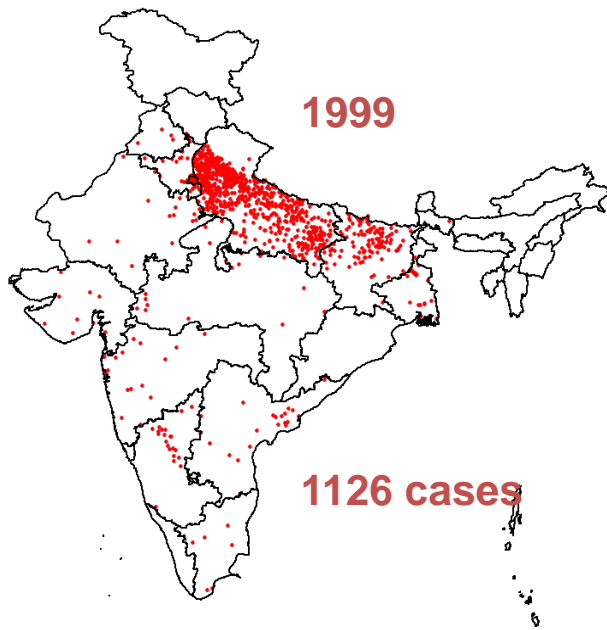
Wild poliovirus cases, India



Data from [NPSP-India](http://npssp-india.org)

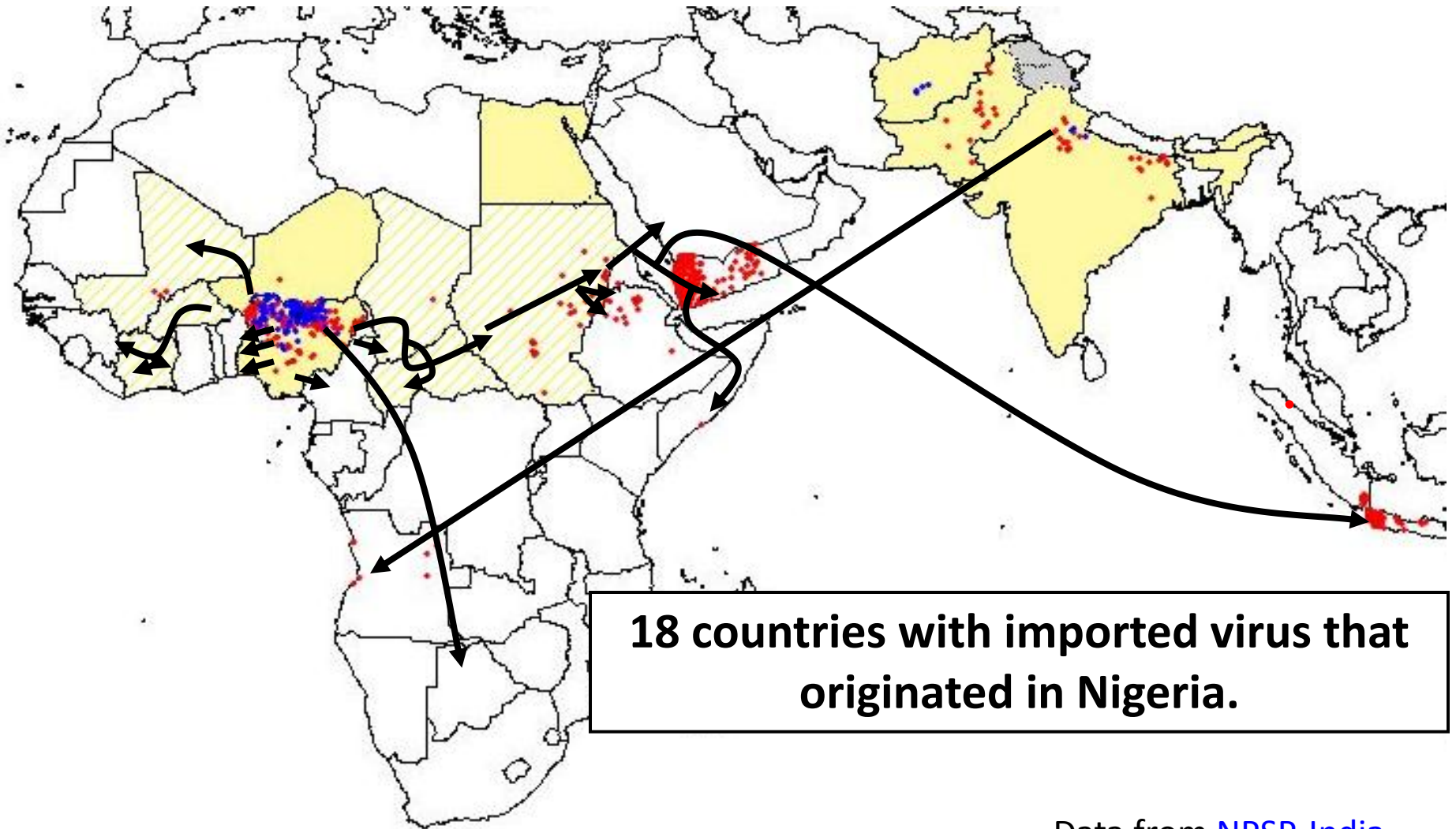
* data as on 11 November 2011

Location of poliovirus



Data from [NPSP-India](#)

Poliovirus spread 2003-2005



Data from [NPSP-India](#)

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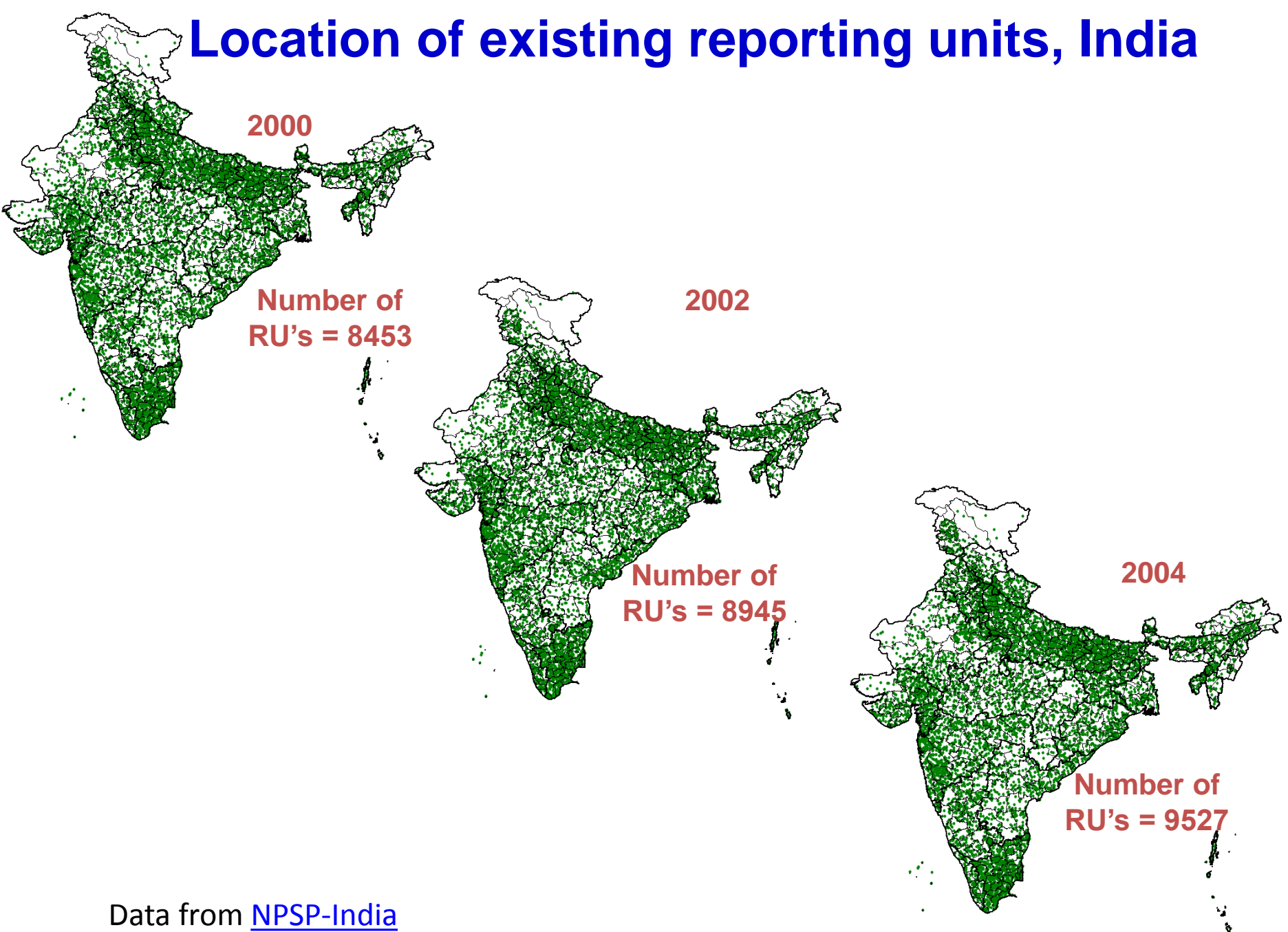


A boy in Firozabad, Uttar Pradesh, India, shows his finger, painted to indicate he has just been

"India's success is really the result of visionary determination and dogged persistence," says Liam Donaldson, former head of the U.K.'s Health Protection Agency and chair of an independent expert panel that monitors the polio eradication effort. "This achievement is thanks to the country's leaders and to many talented and dedicated individuals working both for the government and for its partner agencies."

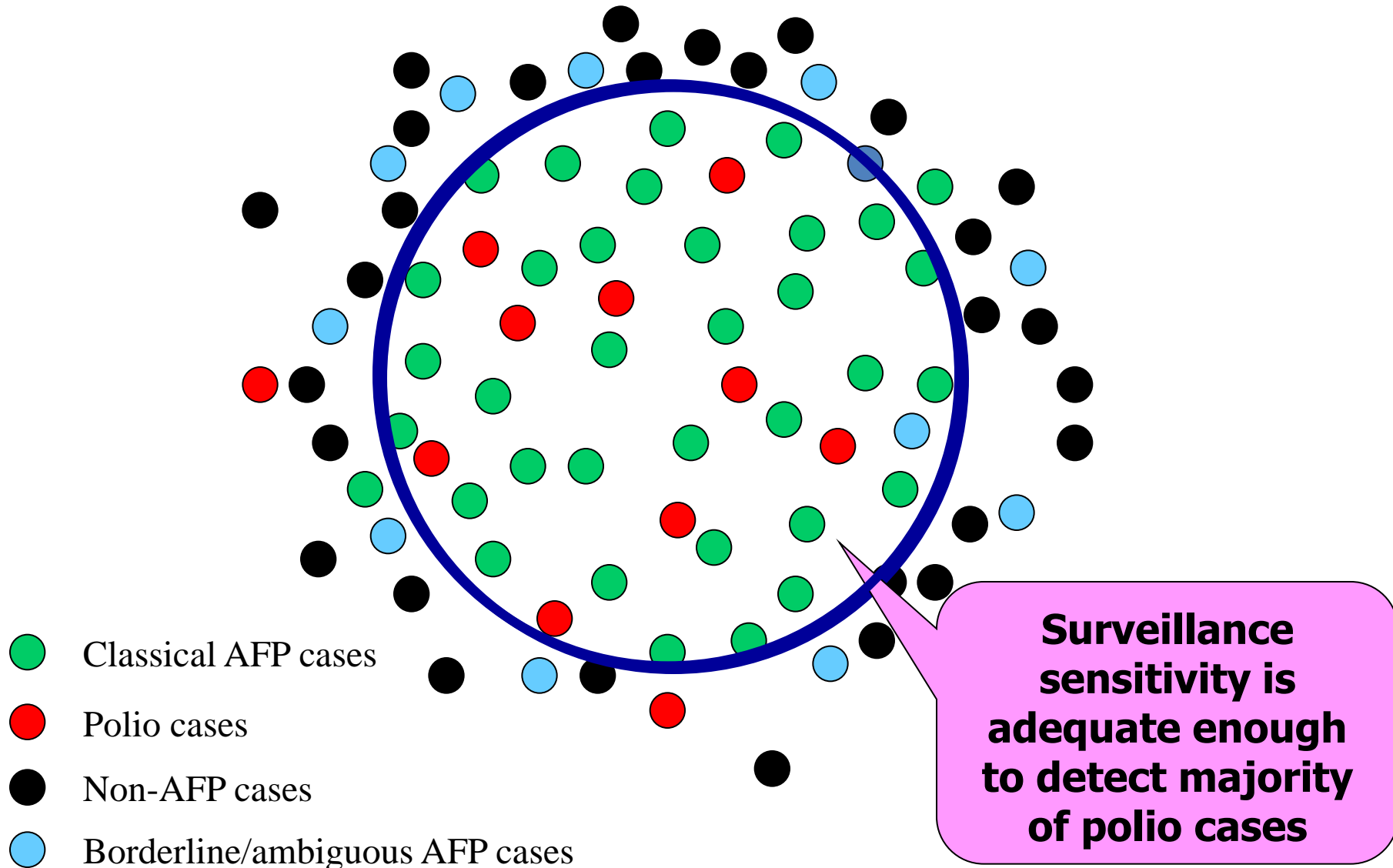
But D. A. Henderson of the Center for Biosecurity at University of Pittsburgh Medical Center, who led the campaign to eradicate smallpox, thinks some credit for the resurgence of the global polio effort should be directed toward the founder of Microsoft. "We've got a guy by the name of Bill Gates who has taken this very seriously," Henderson says. "And I think he has done a lot to get attention at high levels in the different governments, India included, which I think has made a big difference."

Location of existing reporting units, India



Data from [NPSP-India](#)

When too much polio is around.....

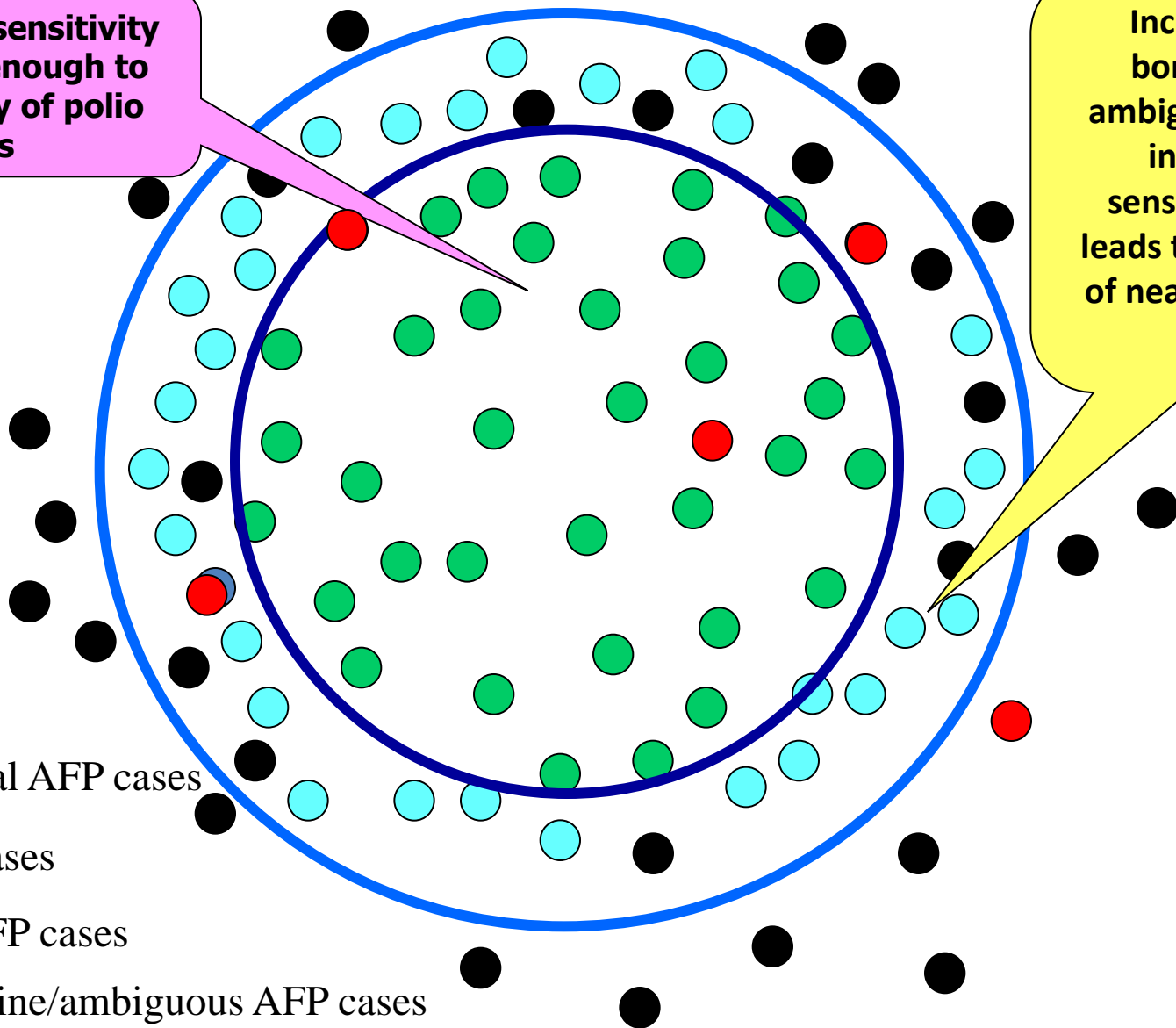


When transmission is very low.....

Surveillance sensitivity is not good enough to pick majority of polio cases

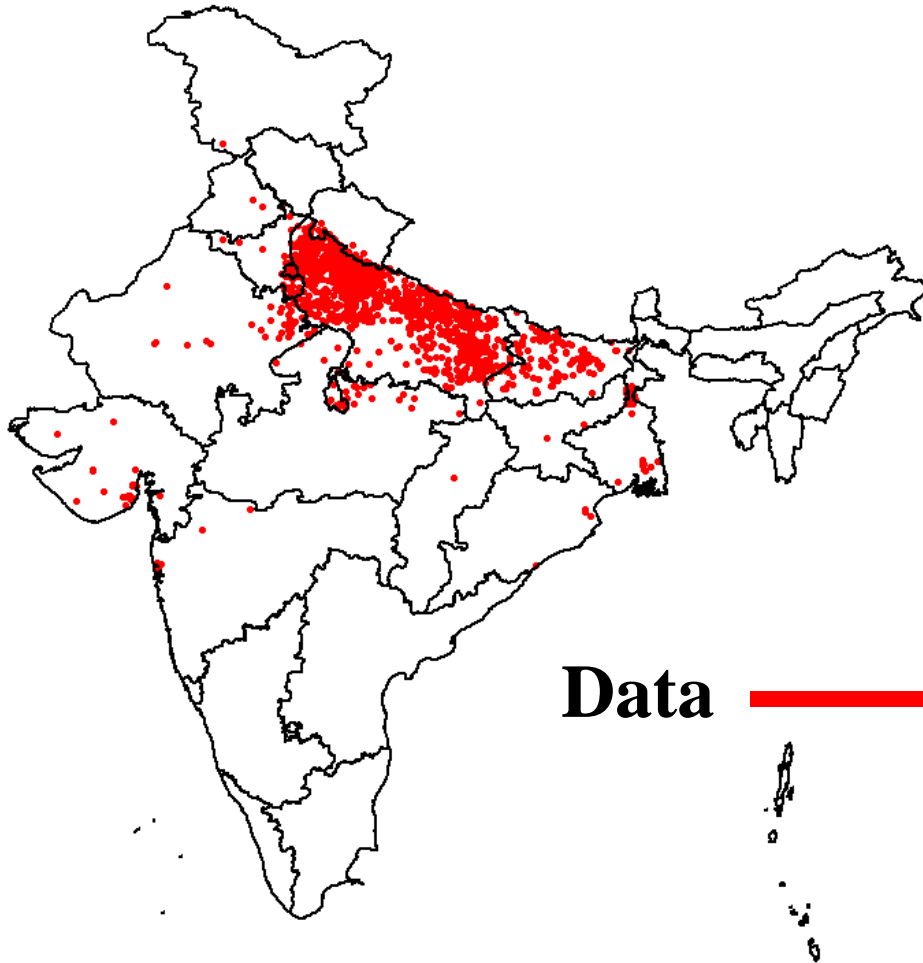
Inclusion of borderline/ambiguous cases increases sensitivity and leads to detection of nearly all polio cases

- Classical AFP cases
- Polio cases
- Non-AFP cases
- Borderline/ambiguous AFP cases



Location of poliovirus, 2002

SNIDs 2003



Data



Action

Data collection for action

** data as on 26th April 2003*

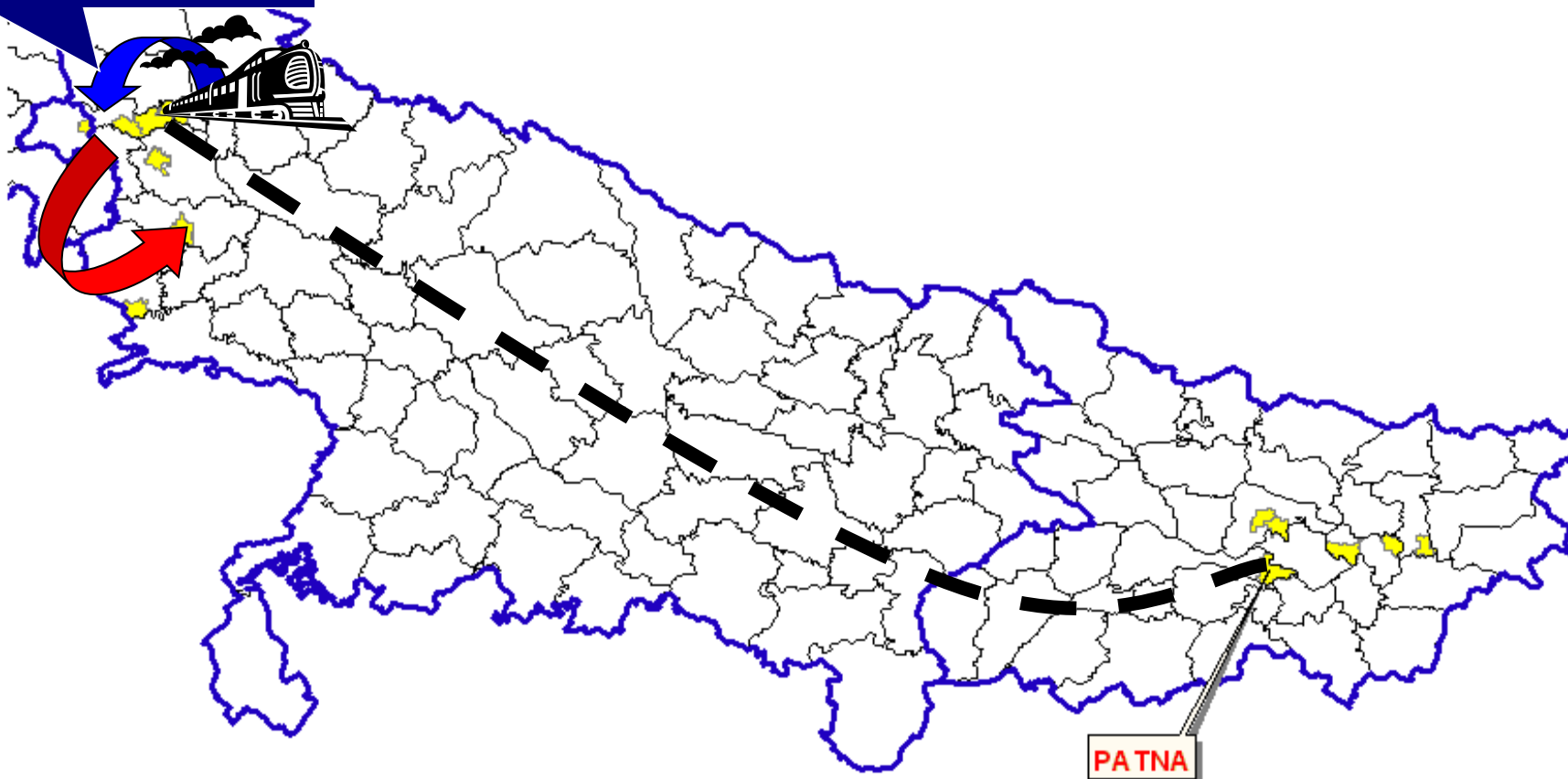
Slide courtesy [NPSP-India](#)

WPV Delhi

**Travel from
GZA to Delhi &
after onset to
Aligarh**

Epidemiology of poliovirus subcluster of B2d (Yellow) – U.P.

 **Dec 03 - Feb 05**



**Press Information Bureau
Government of India
Prime Minister's Office**

25-February-2012 11:43 IST

Prime Minister's Speech at Polio Summit

The Prime Minister, Dr. Manmohan Singh addressed the Polio Summit in Delhi today. Following is the text of Prime Minister's address on the occasion:-

More money for health must also result in more health for the money. Beyond investments, we, therefore need greater capacities for decentralized health care planning and management. This will require greater focus on human resource development as well as on technological innovation and information systems that can support such decentralization.

Just as the polio campaign saw the Central and State Governments working closely with a common purpose, I am confident that the vision of universal health care will unite all of us in a concerted effort to preserve, to protect and promote the health of all our people."



Roadmap to Combat Zoonoses in India

A multisectoral initiative for 'integrated' prevention and control of zoonoses



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[Zoonoses](#) | [Strategic Research Agenda for Zoonoses Prevention and Control in India](#) | [RCZI presentation on Developing One Health Approaches in India](#) | [RCZI presentation on Ide](#)

Government announces national policy for containment of antimicrobial resistance

The widespread irrational use of antimicrobials in the Indian health care system and its contribution to emerging drug resistance has often been voiced as a major cause of concern. Several reasons have been cited for this malaise that plagues human, veterinary and agriculture sectors in India. Some of these include regulatory gaps, inability to enforce the existing regulations, over the counter availability of antimicrobials, lack of awareness amongst prescribers and clients

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One-Health collaborations in Tamil Nadu rabies control initiative: lessons for the future

A recent assessment of rabies in Tamil Nadu conducted by RCZI demonstrated one such model for intersectoral collaboration.

[read more...](#)

ALL ABOUT ZOOONES

In recent decades, emerging diseases have cast a wide net of fear with new infections breaking into human populations.

[read more...](#)

ZOOONES FOR:



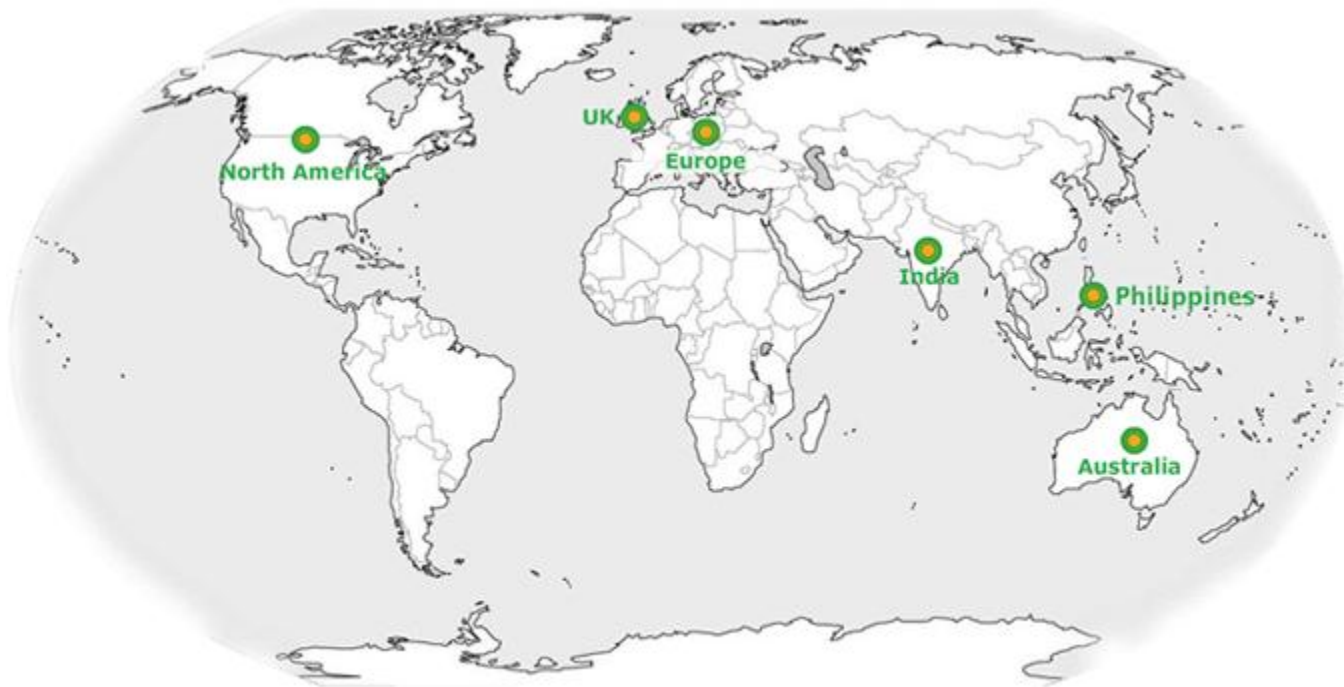
India Situation Update



Public Health Foundation of India (PHFI)

Global Partners Location

<http://www.phfi.org/partnerships/our-partners->



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