



# Global Polio Eradication



## The Progress & the Legacy



# Polio Eradication: Objectives

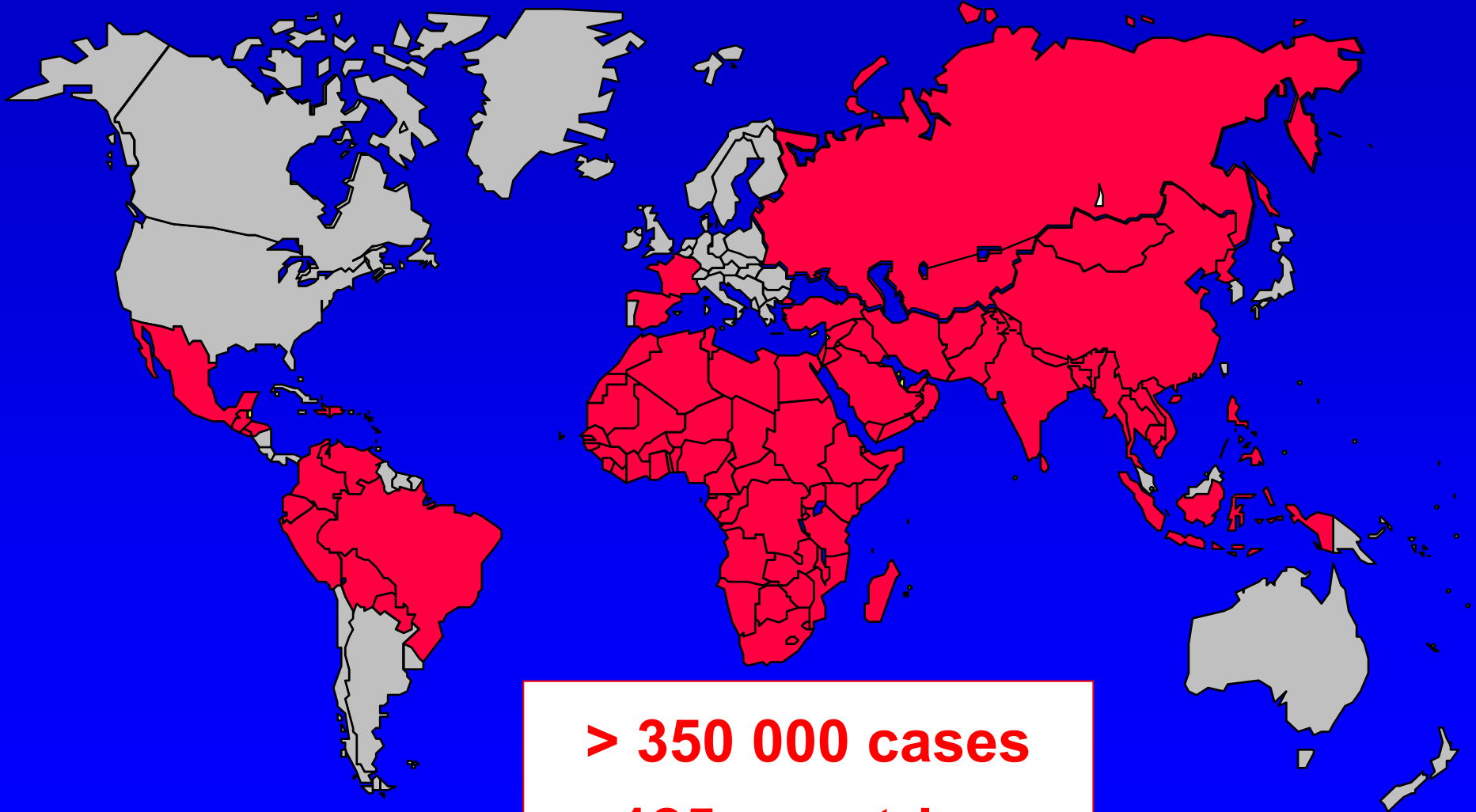
1. Interrupt virus transmission
2. Certify global eradication
3. Post-certification policies
4. Expand the 'polio infrastructure'



# Interrupting Poliovirus Transmission



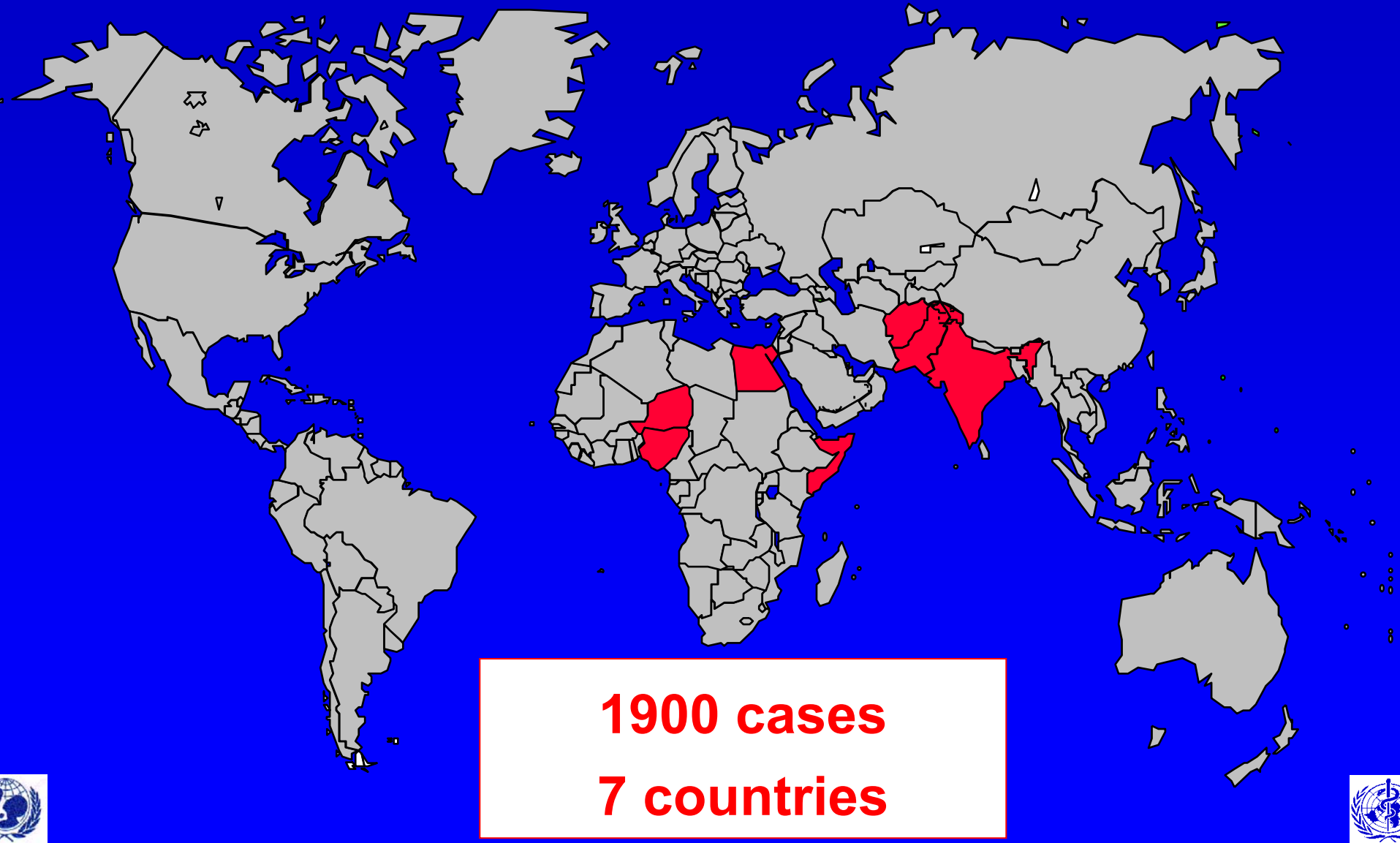
# The Polio Problem, 1988



**> 350 000 cases**  
**125 countries**



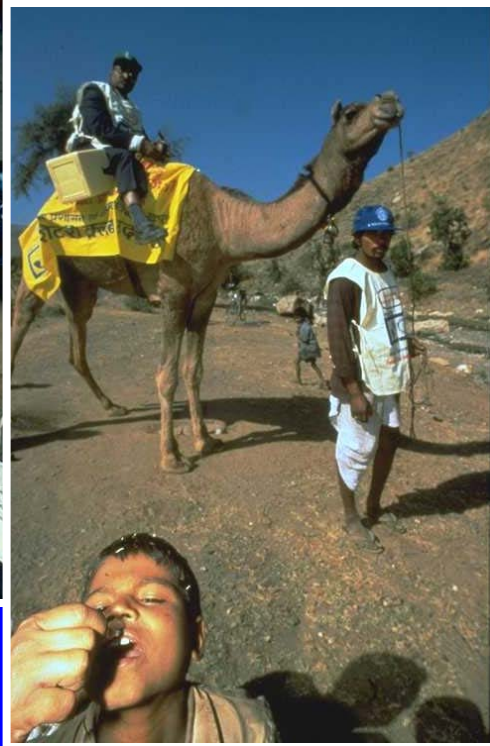
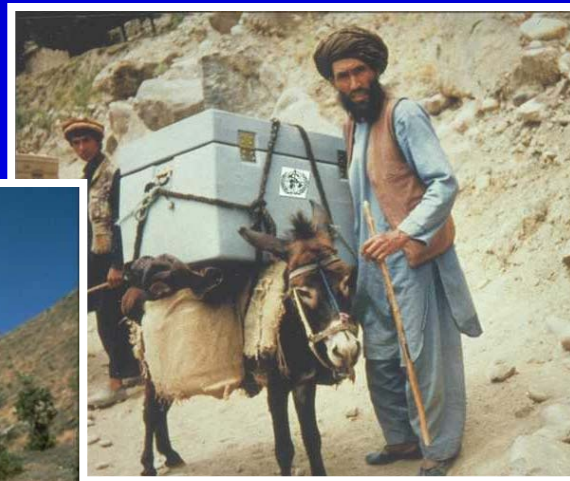
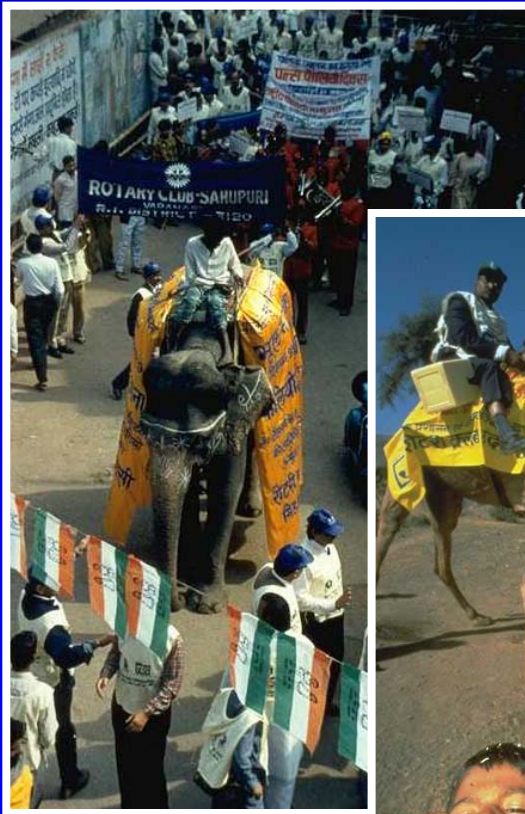
# Polio Progress, 2002



**1900 cases**  
**7 countries**



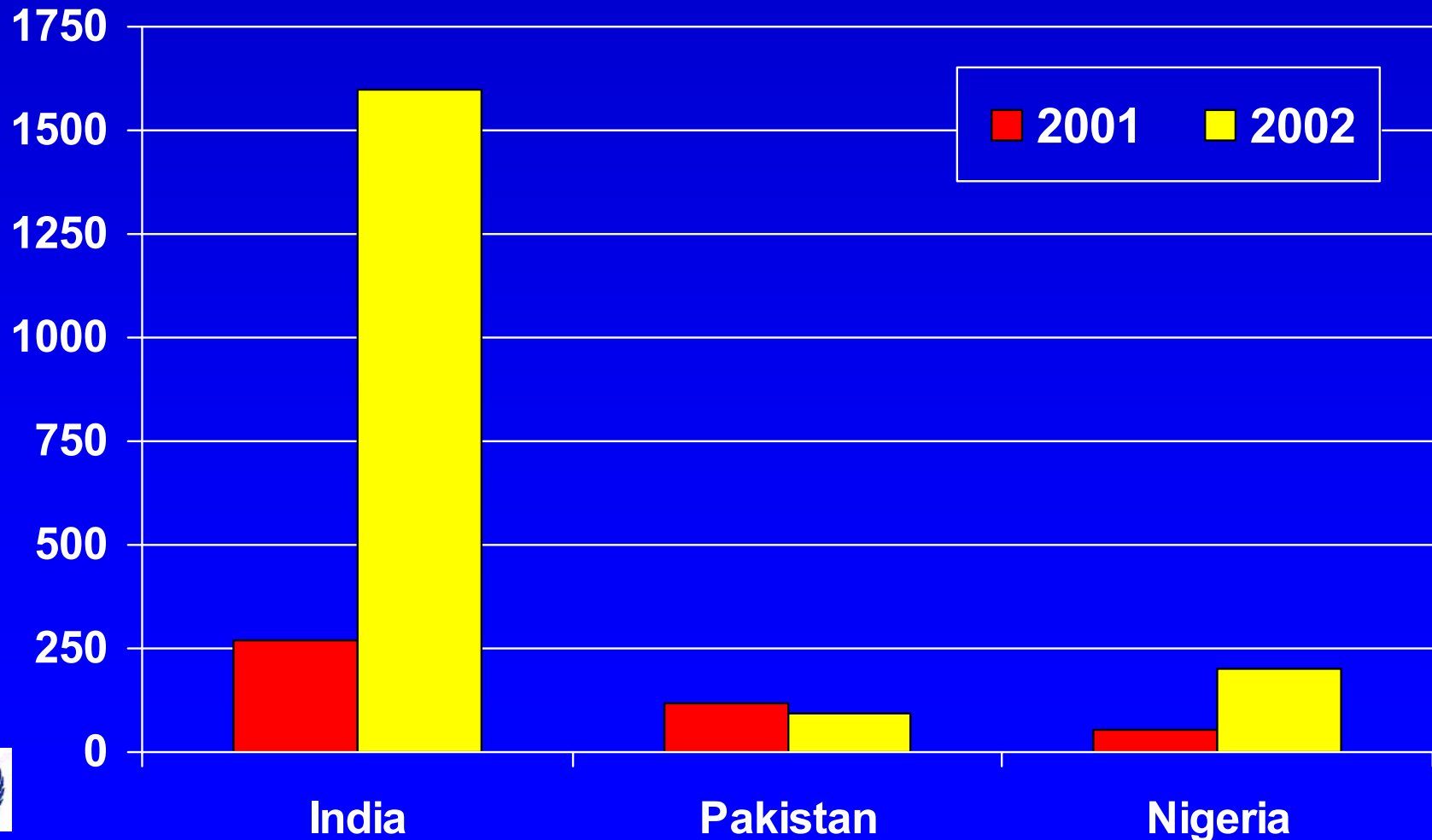
# Polio Campaigns: reaching every child



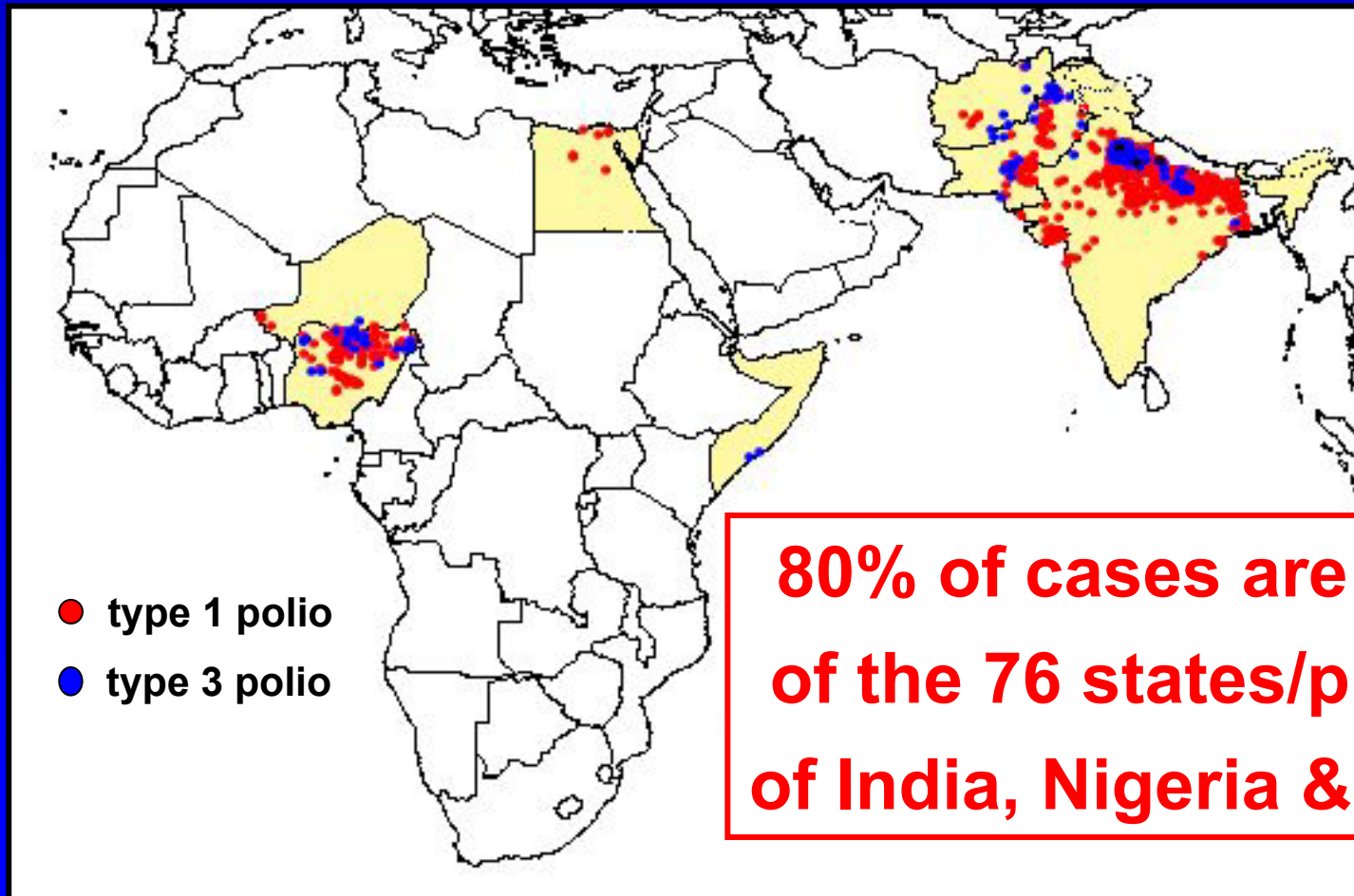
# Polio 2001-2002

## High Burden Countries

### Reported Cases



# Priority: quality of key OPV campaigns





# India as the Global Priority

**85% of global burden in 2002.**

**Only country to re-establish  
transmission in polio-free areas.**

**Lowest number of OPV rounds in  
an endemic area.**



# Certification of Global Eradication

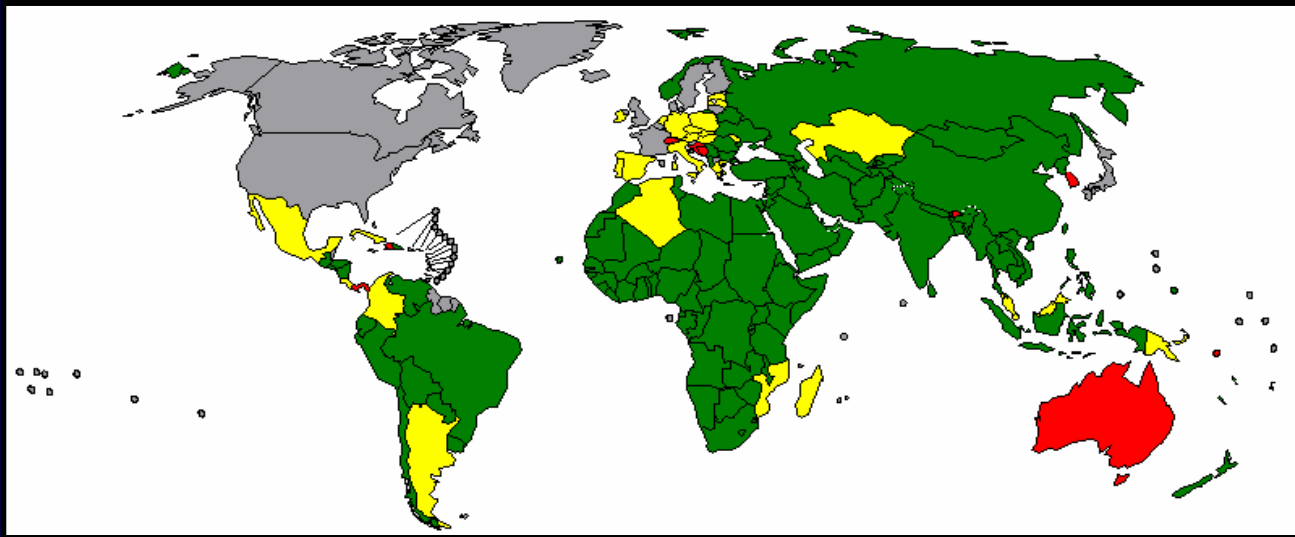


# Global Certification: Components

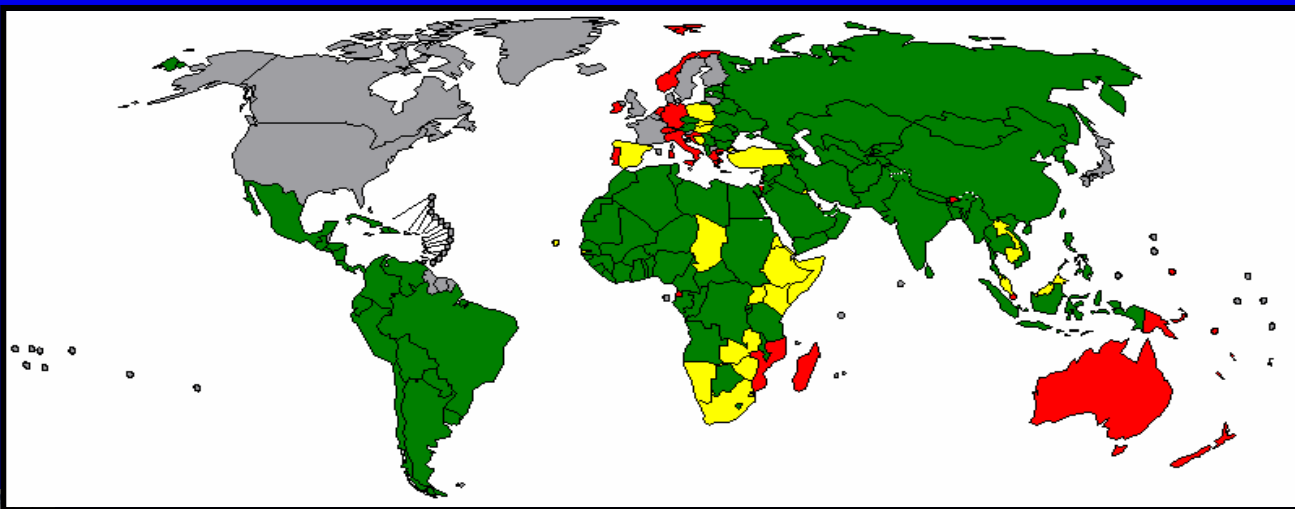
1. Surveillance sensitivity
2. Accredited laboratories
3. Containment of polioviruses
4. Certification process



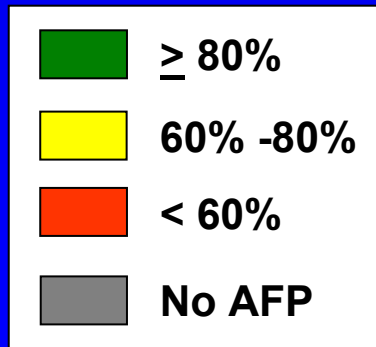
# Surveillance Quality



AFP Detection Rates, 2002



Specimen Collection, 2002

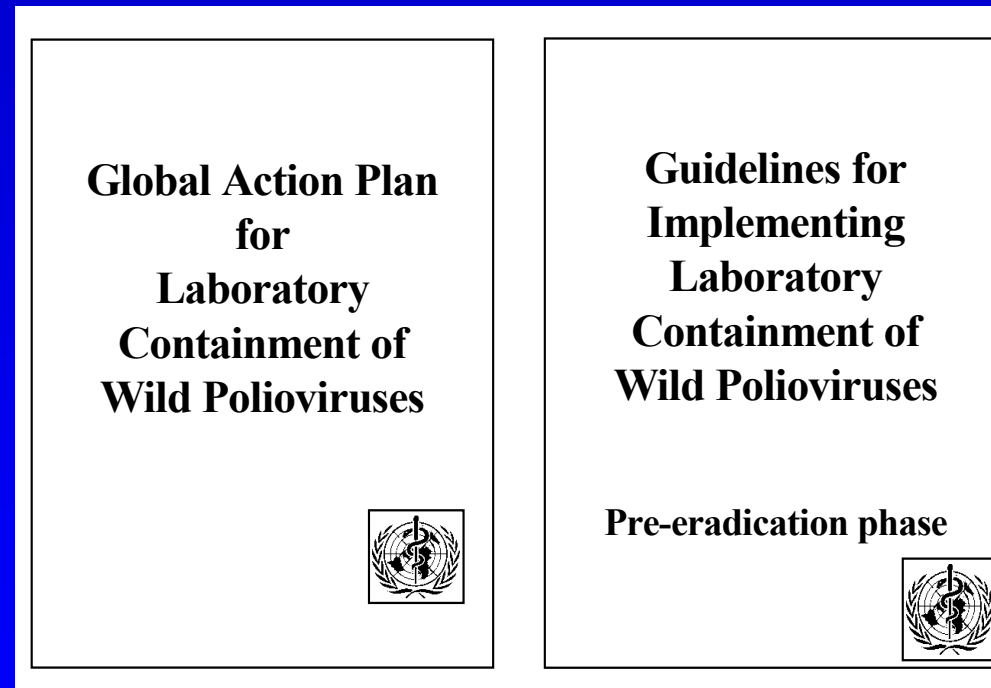


# Containment of Polio Stocks

*The other half of polio eradication*



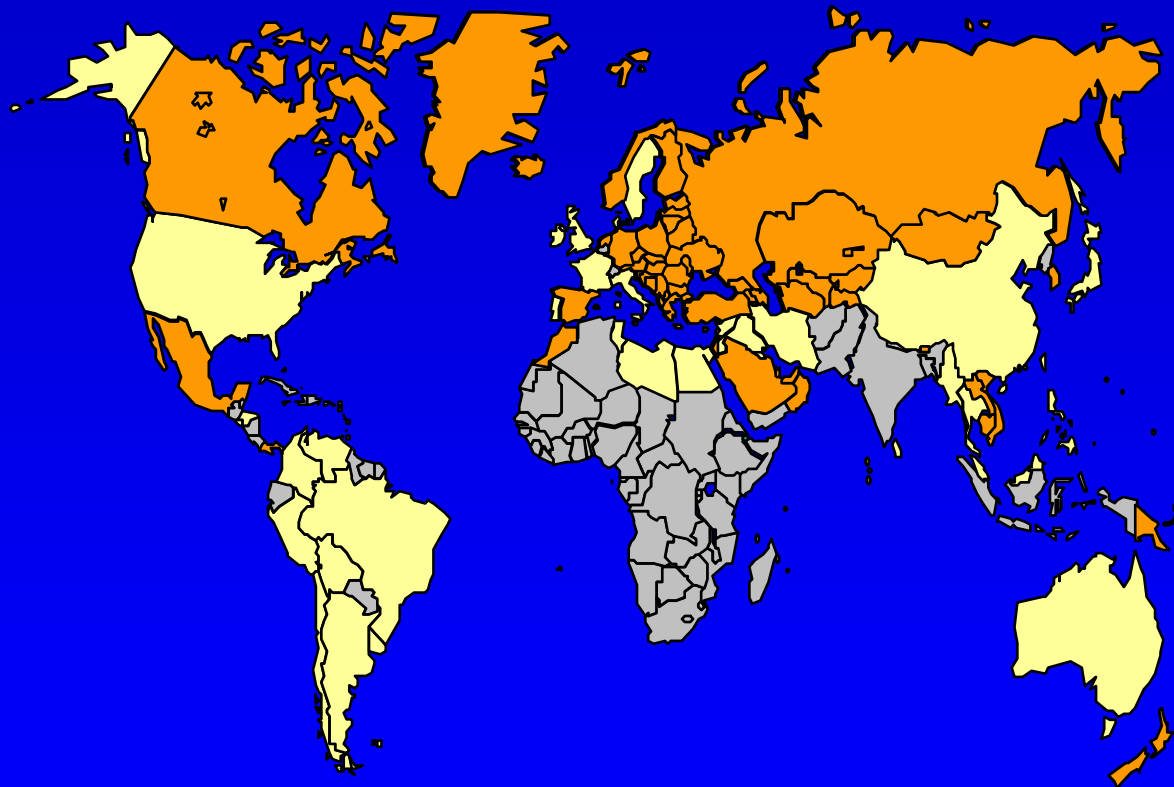
**Finding and controlling  
wild poliovirus in  
human populations**



**Finding and controlling  
wild poliovirus in  
laboratories**



# Containment Progress



Countries reporting completion of survey (79)



Countries conducting survey (67)

Total = 146

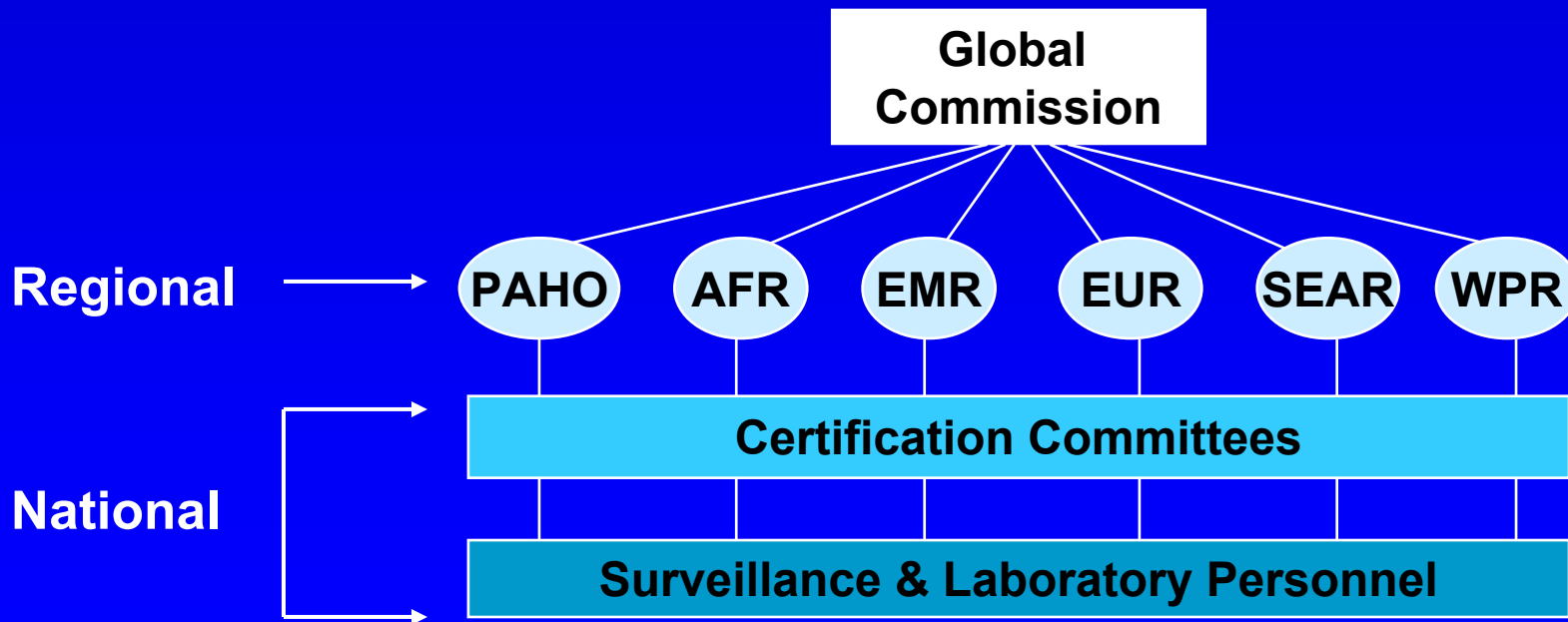
**Priority: complete national surveys and inventories.**



# Certification Process

*'Regions may be certified polio-free after absence of wild poliovirus for at least 3 years, in the presence of excellent surveillance.'*

Global Certification Commission, 1995



# Post-Certification Policies





# Polio Immunization Policy

**Goal: maintain polio-free status at lowest possible cost.**

**(cost = cases + \$\$)**



# Post-Certification Risks of Polio

## Vaccine-derived Virus

Vaccine-associated polio (VAPP)

Vaccine-derived polio outbreak (cVDPV)

Immunodeficient longterm excretors (iVDPV)

## Wild Virus

IPV vaccine manufacturing sites

Inadvertant release of wild poliovirus

Intentional wild poliovirus release

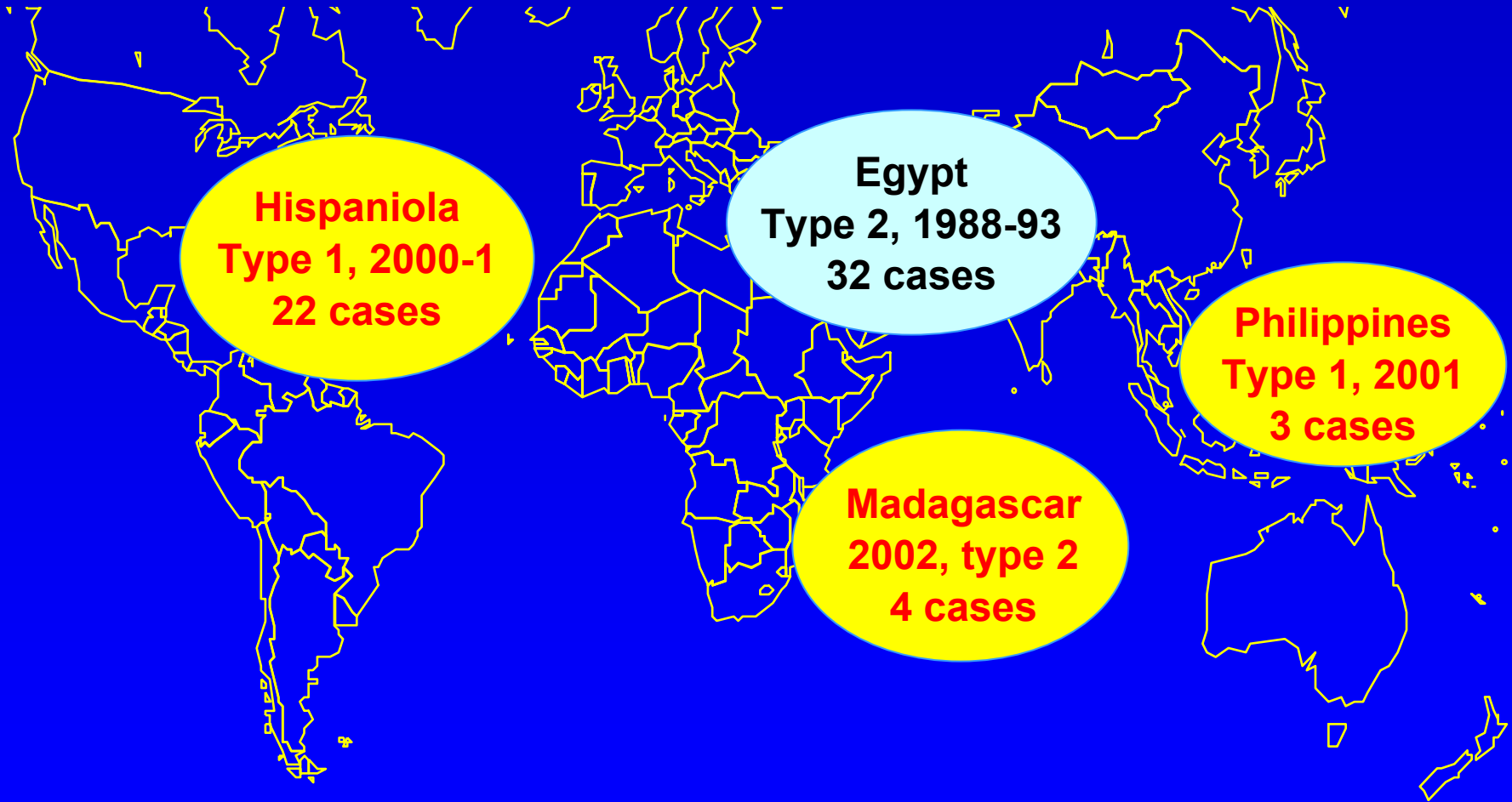


# Post-Certification Risks

<u>Risk</u>	<u>Frequency to date</u>	<u>Annual burden</u>	<u>Evolution over time</u>
VAPP	1:2.4 m doses	250-500	stable
cVDPV	1 per year?	10	increases?
iVDPV	19 since 1963	<1	decreases
IPV sites	1 release (1990s)	0	decreases
lab release	nil	NA	decreases
Intentional	nil	NA	conditional



# OPV-related outbreaks



\* more than 5,000 Sabin isolates screened



# Reducing risks due to OPV cessation

## Preconditions

- global containment of wild poliovirus stocks
- national 'surveillance and response' strategy

## Potential Immunization Strategies

- stop OPV following pulse immunization, with sufficient stockpile until production is restarted.
- Replace OPV with IPV (WPV-IPV or Sabin-IPV).
- Introduce a 'new' polio vaccine.

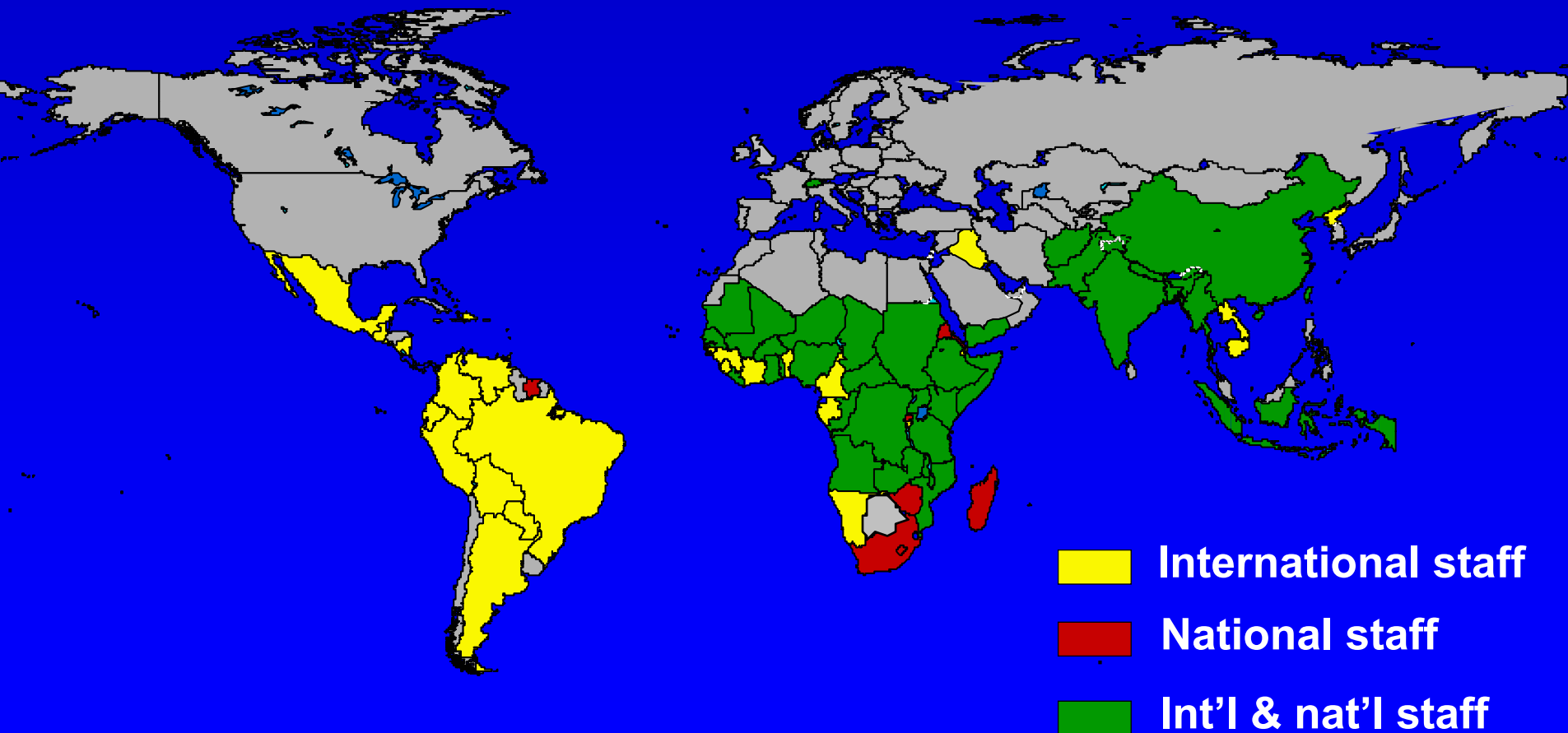


# The 'Polio Infrastructure'



# Human Resources

## WHO polio-funded staff\*



\* approximately 3000 people at end-2002



# Polio Staff Survey 2001

## International staff (177 surveyed):

- 91% conducting routine EPI & surveillance
- 44% of time devoted to non-polio activities

## National staff (838 surveyed)

- 100% involved in routine EPI & surveillance
- 22% of time on non-polio activities





# Polio & Other Services

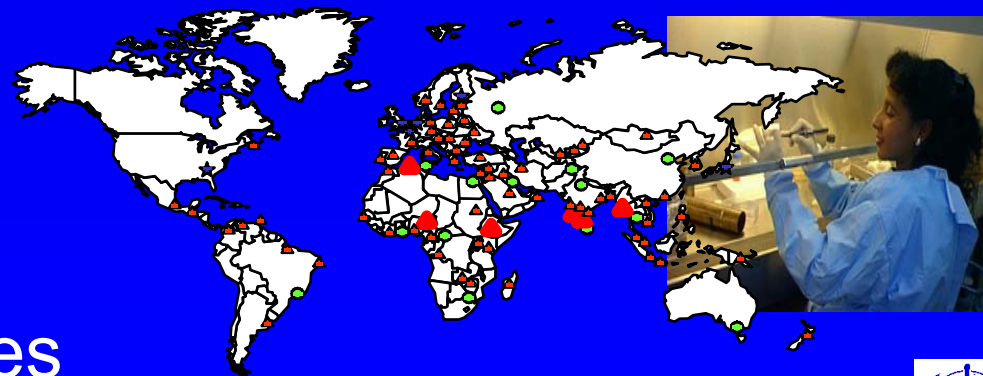
## Routine Immunization

- cold chain
- microplanning
- management
- social mobilization



## Disease Surveillance

- measles
- 'EPI' diseases
- epidemic-prone diseases

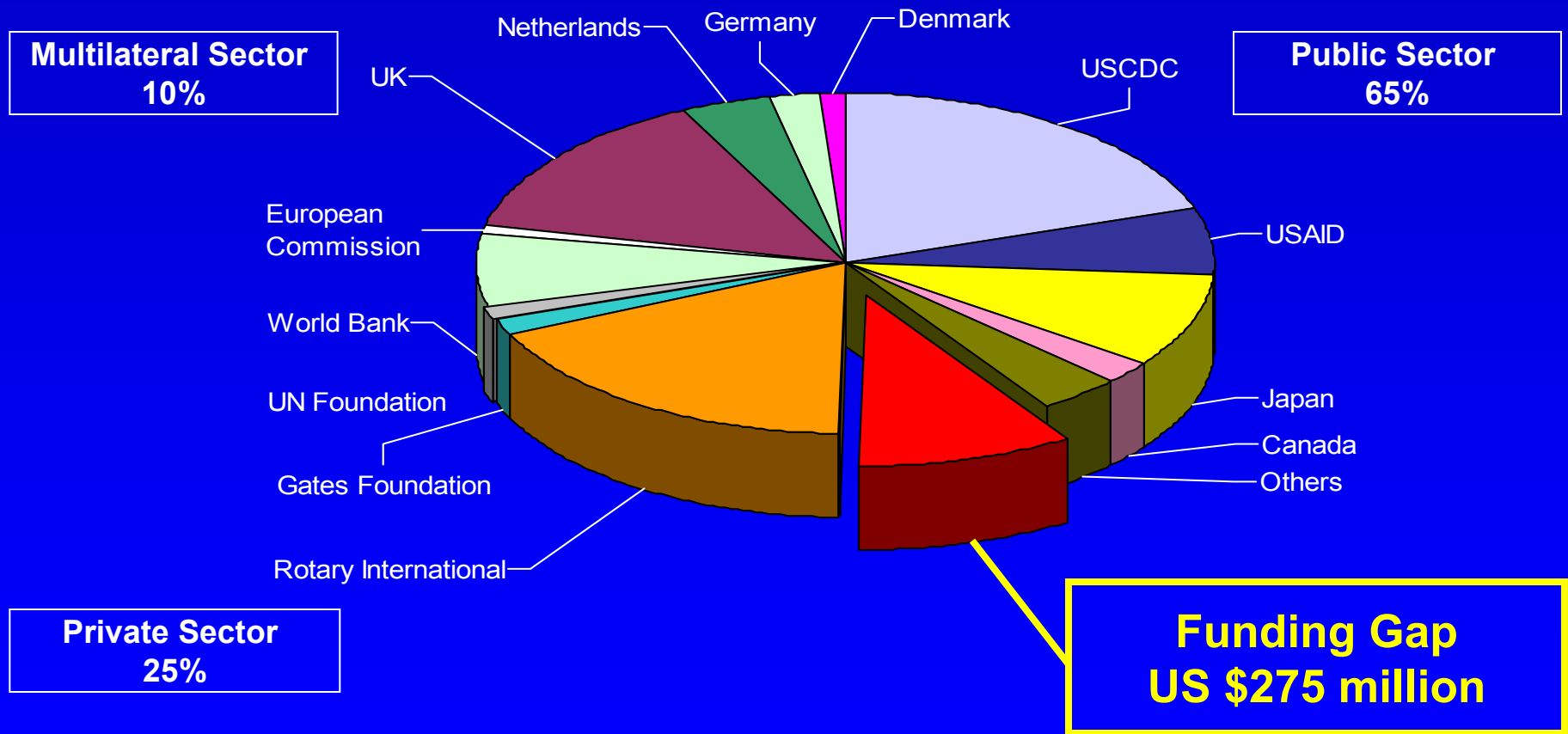


# Risks



# Funding Gap, 2003-5

Polio Eradication US \$3 billion budget, 1988-2005



NOTES: this chart represents 'external' financing data as of 31 January 2005.  
'Other' includes more than 25 donors contributing between US\$100 000 & US\$ 25 million.  
The World Bank/Gates/Rotary-UNF Collaboration is reflected under the respective donors.



# Summary



# Summary

Polio can be eradicated: India, Nigeria, Egypt & Pakistan are now the key areas.

The risks of polio in the 'post-certification era' are quantifiable & manageable.

The polio lessons & infrastructure could substantially impact other diseases.

Insufficient financing is the greatest risk.





# The Polio Partnership

## Private Sector

Aventis, UN Foundation  
Gates Foundation  
De Beers

## NGOs

ex. MSF, CPHA,  
CARE, CORE

**Rotary, WHO  
CDC, UNICEF**

## Red Cross

National Societies,  
IFRC & ICRC

World Bank

European Union

**Ministries  
of Health**

## Donor Governments

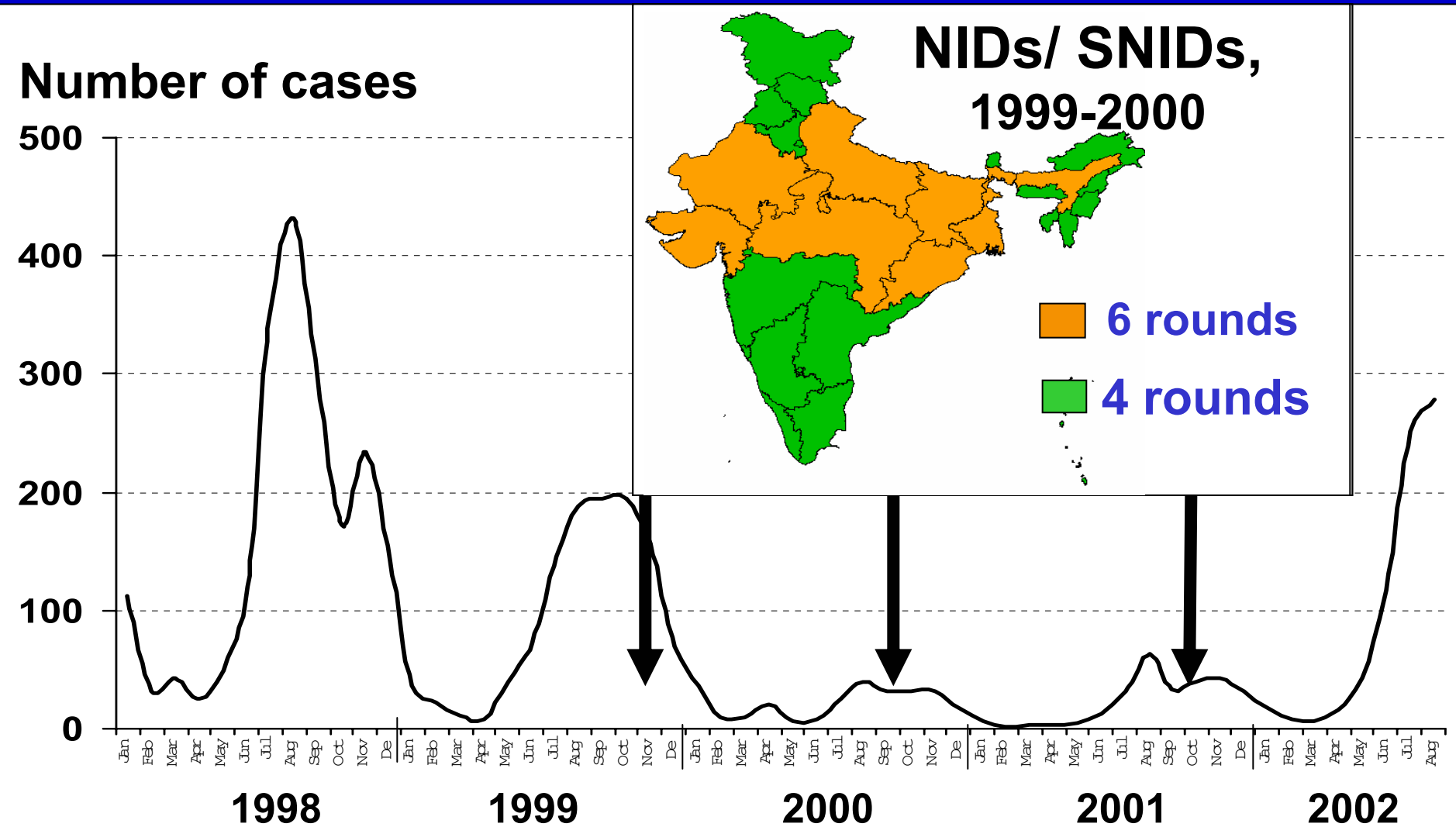
U.K., USA, Japan, Canada  
Ireland, Denmark, Netherlands  
Germany, Australia, Belgium  
Lux., Norway, Italy

## UN Agencies

ex. Secretary-General  
WFP, UNHCR



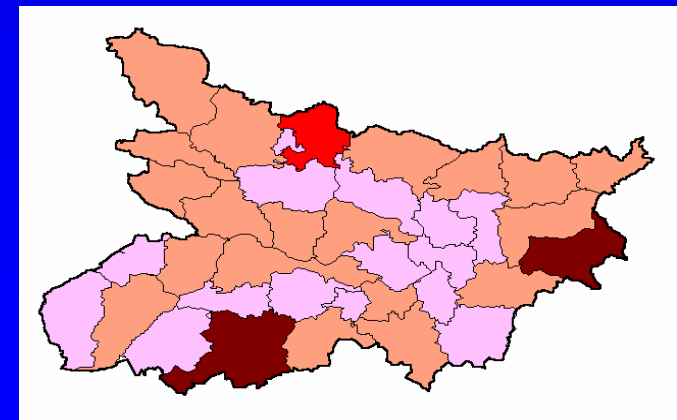
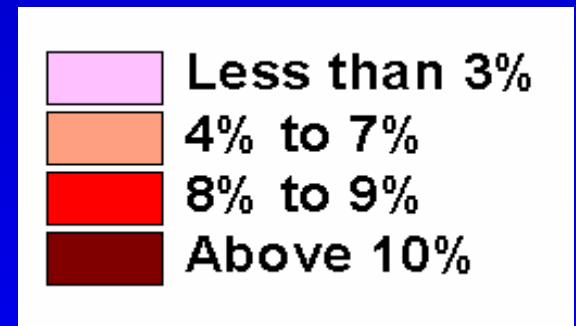
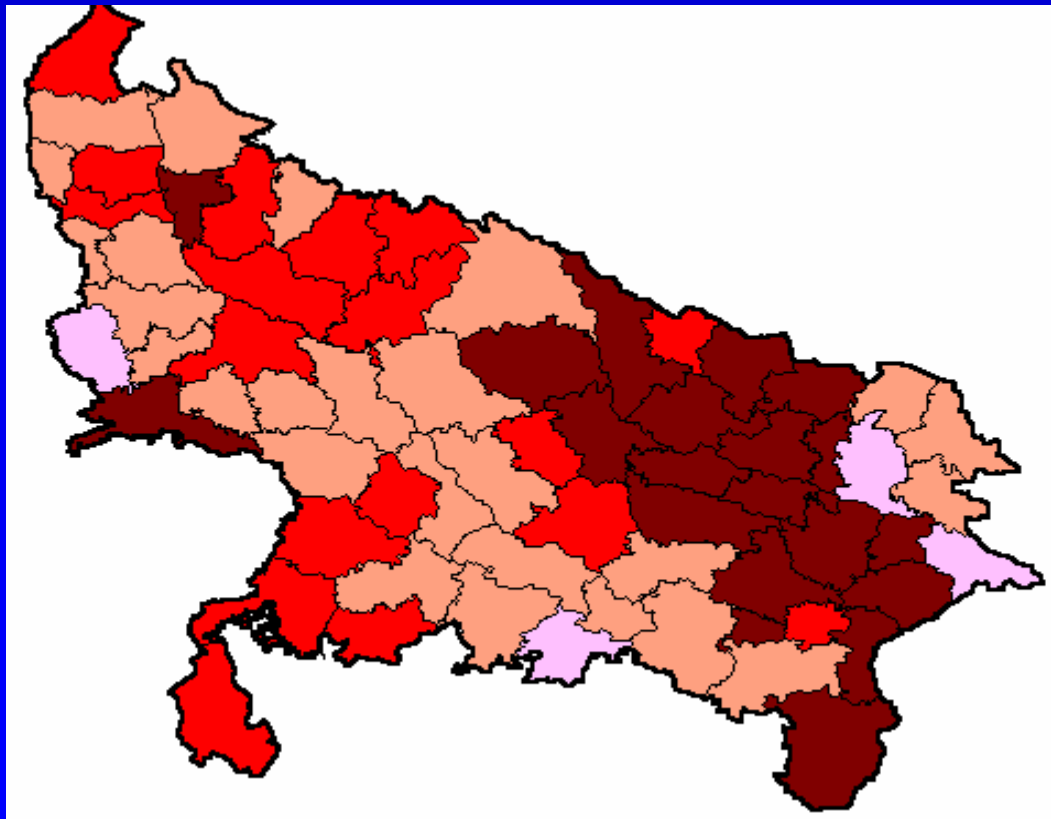
# Polio in India, 1998–2002





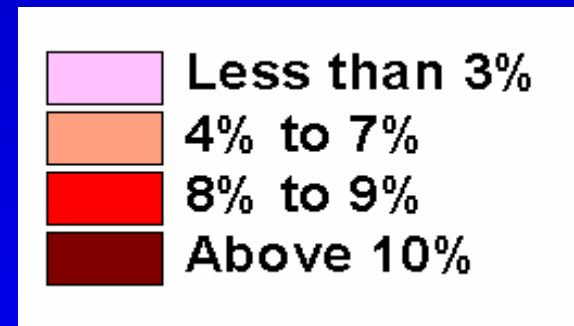
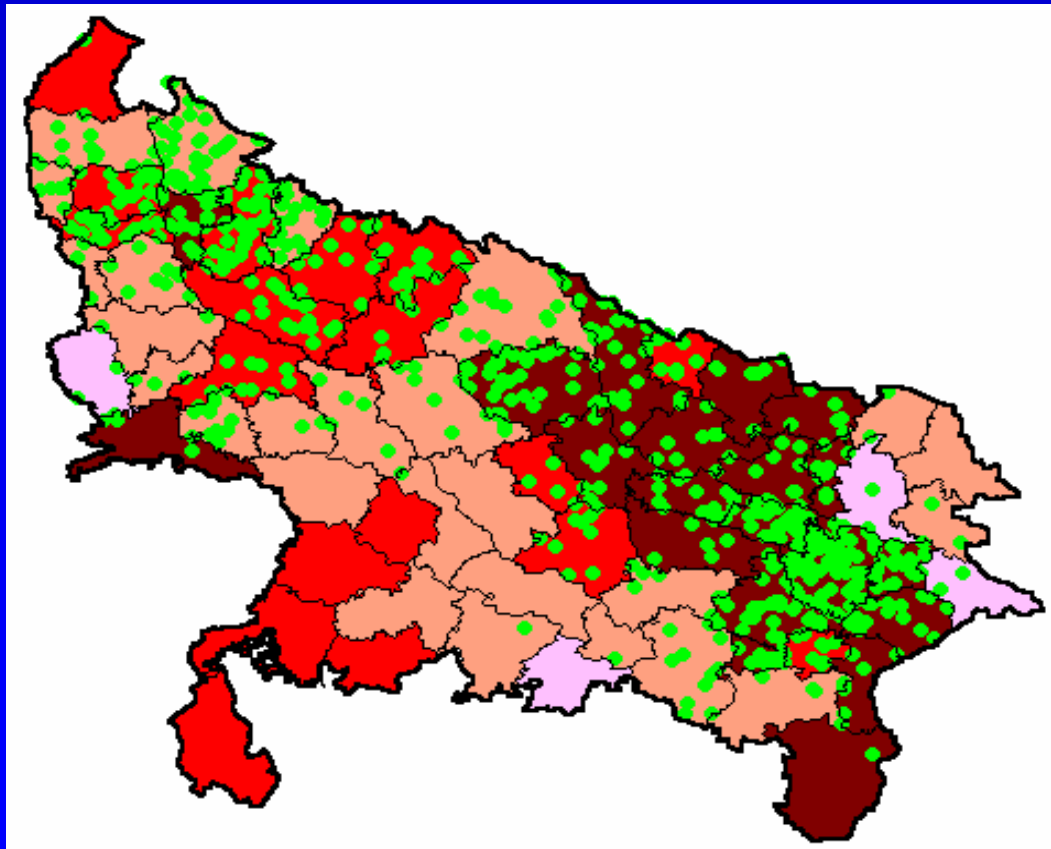
# SIAs Quality

% houses missed in SNIDs, India, Sept 2002

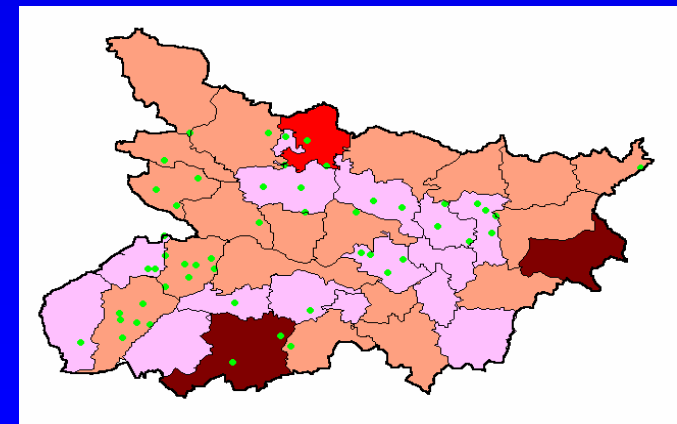


# SIAs Quality

% houses missed in SNIDs, India, Sept 2002



 = 1 wild poliovirus



# **Stopping Transmission**

## **Critical Factors**

**Increased number & quality of rounds in India, Nigeria, Egypt.**

**Subnational political engagement & community ownership in India & Nigeria**

**Enhanced veracity of programme in Egypt.**

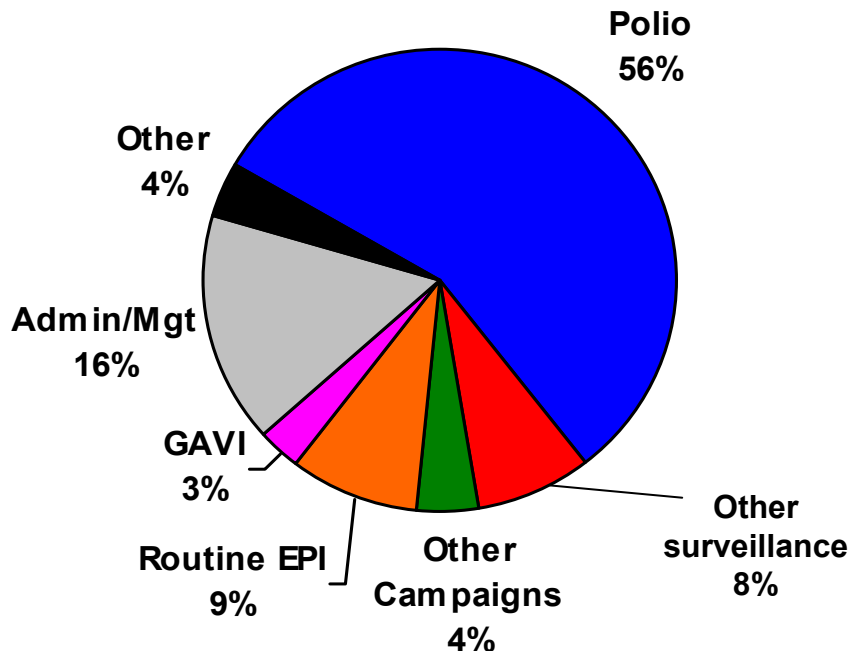
**Sustained political engagement in Pakistan.**



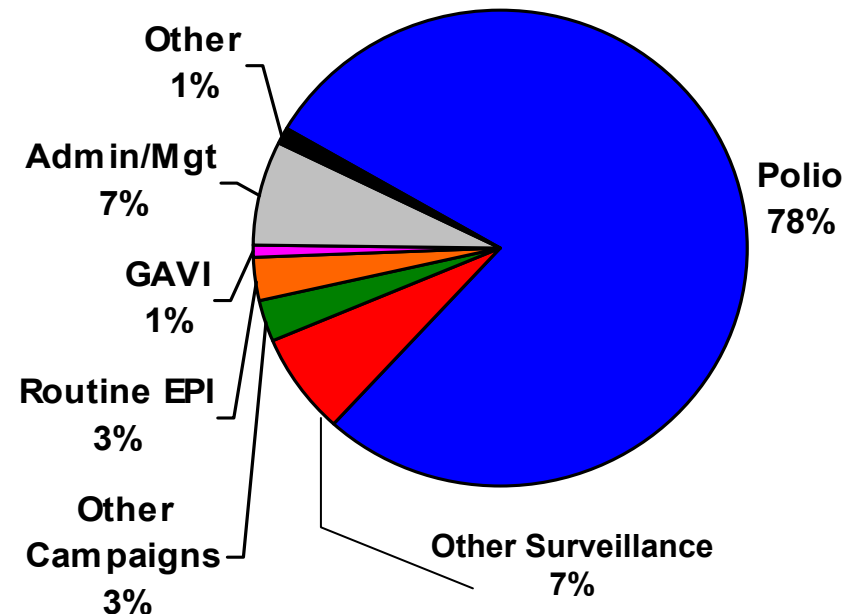
# Polio Staff Activities

## Use of staff time, 2001

### International staff



### National staff



# Opportunities

## Enhancing routine & integrating SIAs

1. Routine OPV3 coverage  $\geq 85\%$ .
2. Supplemental OPV campaigns every 1-3 years in polio-free areas where OPV3  $< 85\%$ .

Opportunities to integrate polio & measles SIAs, 2003



# Polio Programs, 2002

	<u>Pakistan</u>	<u>Nigeria</u>	<u>India</u>
NIDs/SNIDs			3
Use of Not/ Teams			Federal
Independence monitoring	Since 1999	Since 2002	Since 2002

**Key Factor: Pakistan political leadership at the federal, province & district levels**



# Certification & Containment

**Global Certification =**

**Regional Certification x 6**

**+**

**Regional Containment x 6**

**Global Certification Commission, 1997**



# Polio Today

Americas  
0 children  
paralyzed



West Pacific  
0 children  
paralyzed



Asia & Africa  
98% of cases in  
just 3 countries



Europe & NIS  
0 children  
paralyzed

