



DNDi's  
**3rd Partners' Meeting**  
in collaboration with **ICMR**

New Delhi, India,  
December 3, 2010



Indian Council  
of Medical Research

**DNDi**

Drugs for Neglected Diseases initiative

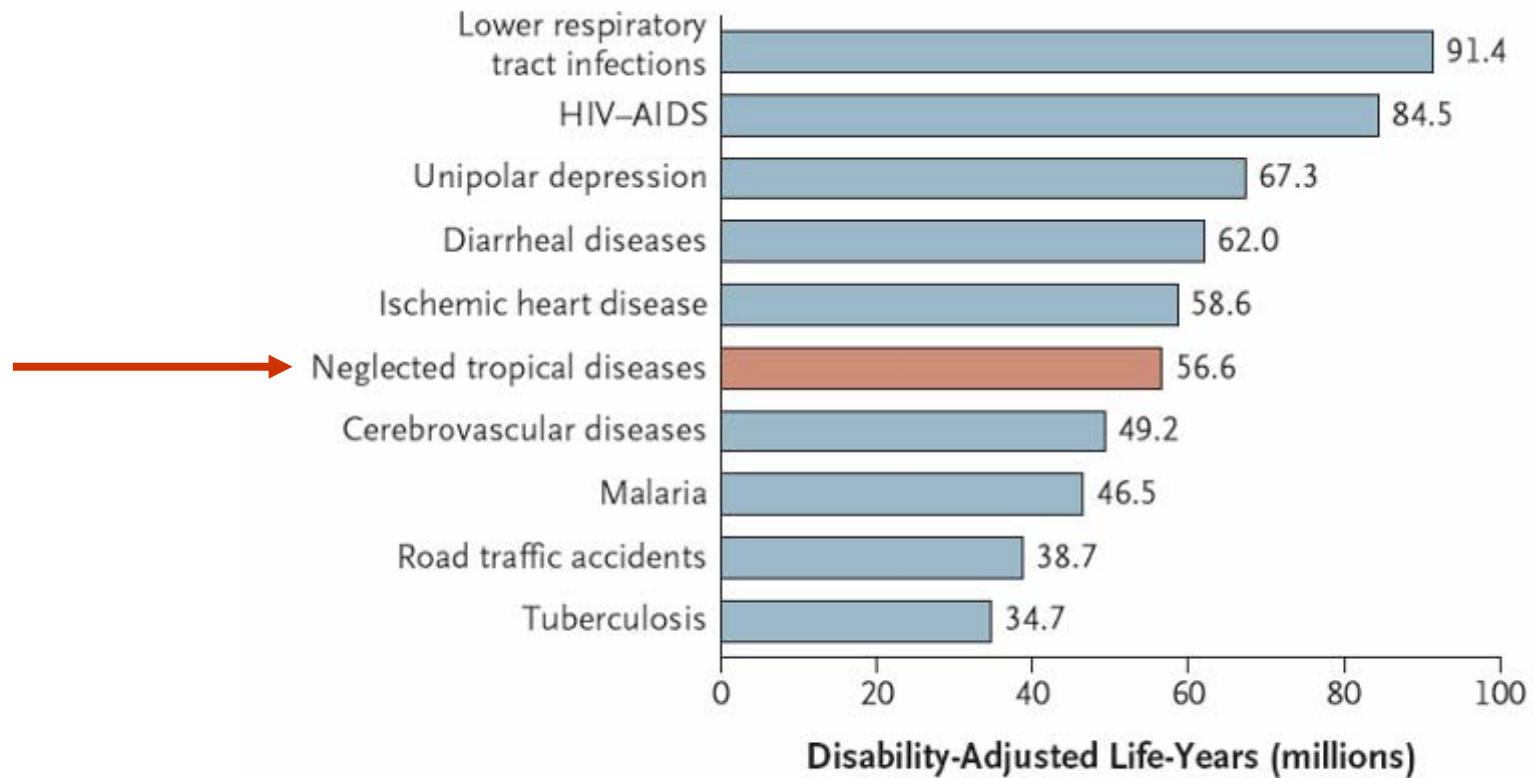
# Needs of Neglected Patients Focus on India & Asia

Bhawna Sharma, Head, DNDi India

CURRENT CONCEPTS

# Control of Neglected Tropical Diseases

Peter J. Hotez, M.D., Ph.D., David H. Molyneux, Ph.D., D.Sc.,  
Alan Fenwick, Ph.D., Jacob Kumaresan, M.B., B.S., Dr.P.H.,  
Sonia Ehrlich Sachs, M.D., Jeffrey D. Sachs, Ph.D., and Lorenzo Savioli, M.D.



**Figure 1.** The 10 Leading Causes of Life-Years Lost to Disability and Premature Death.

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# All Neglected Diseases need new tools to support elimination

## ***Large-scale interventions***

Lymphatic filariasis  
Leprosy  
Onchocerciasis  
Schistosomiasis  
Helminthiasis  
Trachoma  
Yaws



- Rapid impact interventions
- Improvement of access and development of innovative tools to support elimination

## ***Case management and development of new tools***

Human African trypanosomiasis  
Chagas disease  
Buruli ulcer  
Leishmaniasis  
Dengue

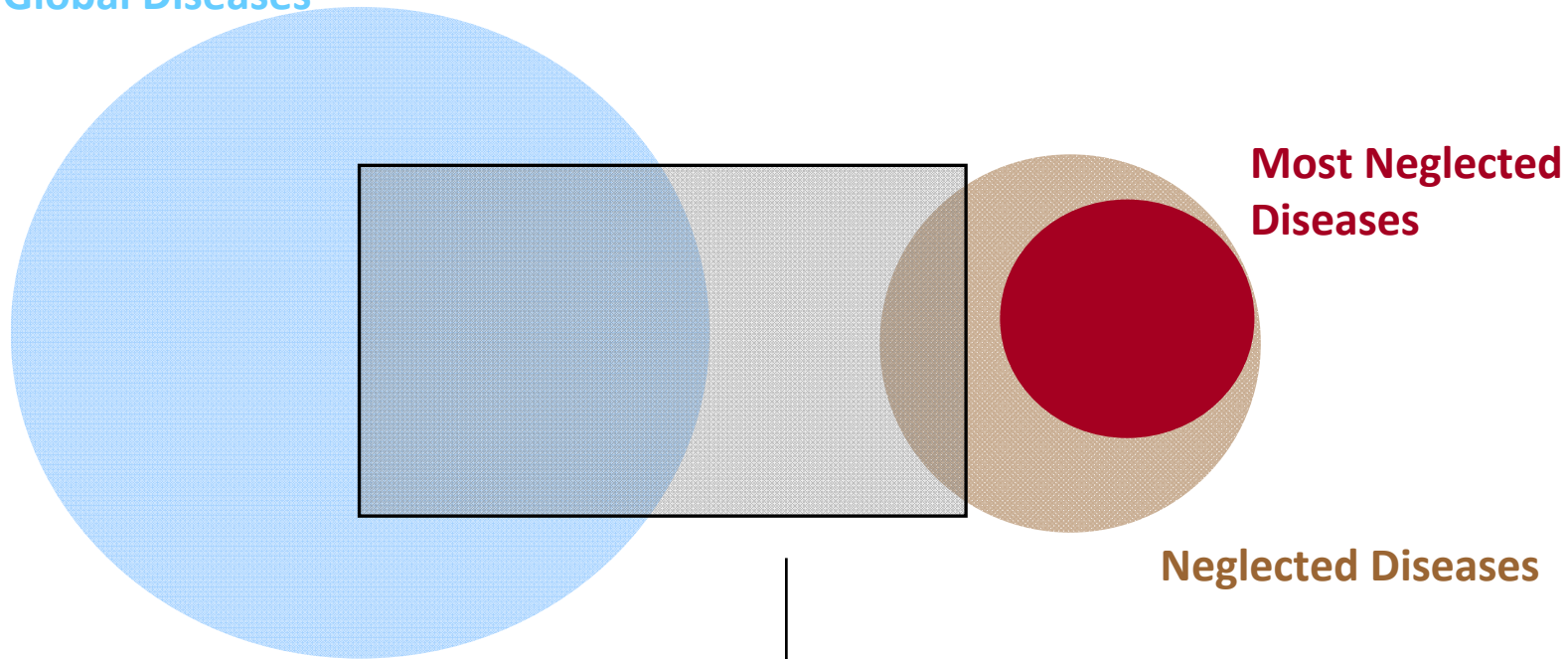


Focused interventions with existing tools and development of new tools to support elimination

# Neglected Diseases:

- primarily affect developing countries
- lie outside the world market

Global Diseases



World pharmaceutical market  
\$837 bn in 2009\*

\*Source: IMS  
Health, 20.04.2010

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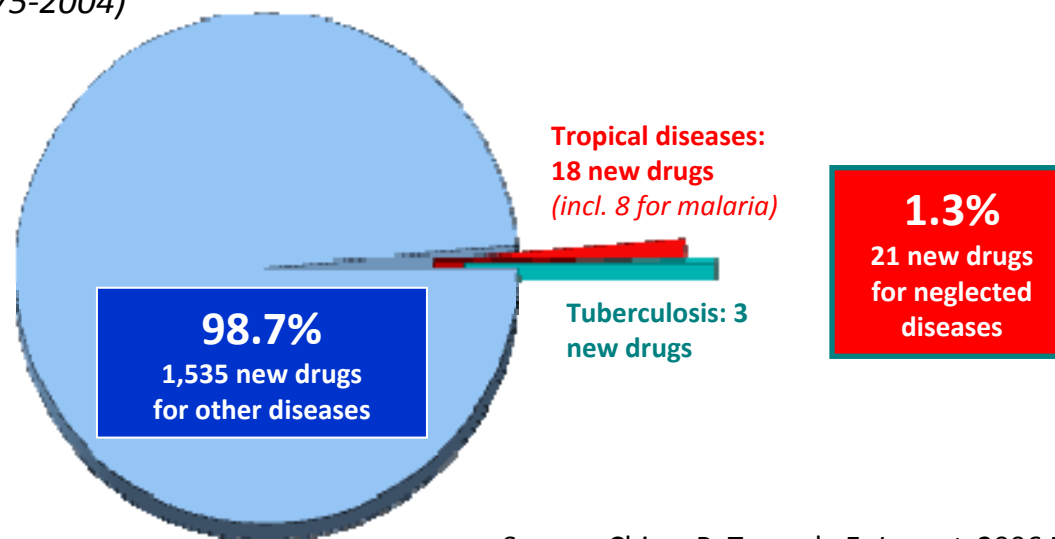
# A Fatal Imbalance

Tropical diseases (including malaria) and tuberculosis account for:

- 12% of the global disease burden
- Only 1.3% of new drugs developed



(1975-2004)



Source: Chirac P, Torreele E. *Lancet*. 2006 May 12; 1560-1561.



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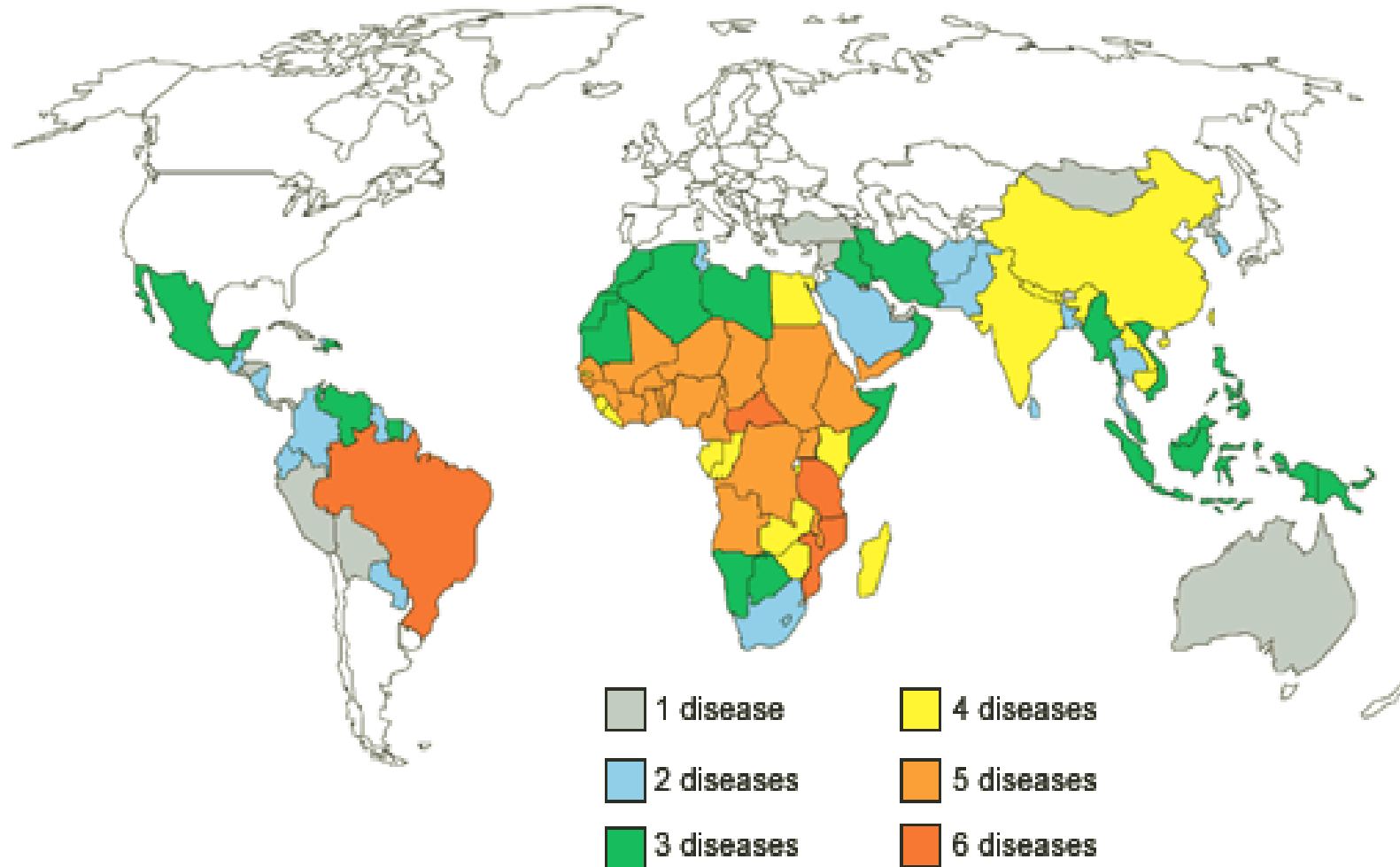


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# Countries Burdened with Neglected Tropical Diseases



WHO, 2010



# Chagas Disease

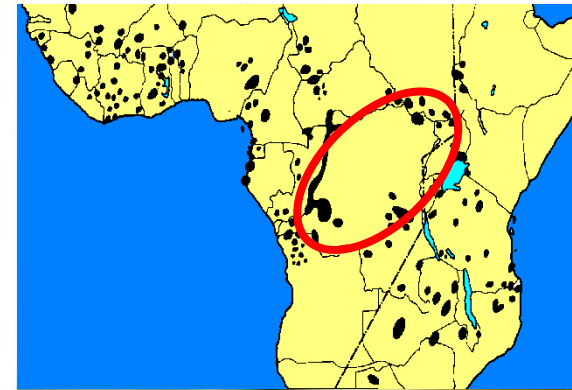
- 100 million at risk in Latin America
  - Kills more people in region than malaria
  - Patient number growing in non-endemic, developed countries
- Transmitted by 'kissing bug', blood transfusion, organ transplantation, as congenitally or orally
- Majority of patients undiagnosed until late stage
- Needs:
  - An affordable, age-adapted, safe, and efficacious paediatric strength
  - A new drug for early chronic stage





# Human African Trypanosomiasis or Sleeping Sickness

- 60 million at risk in sub-Saharan Africa
- Transmitted by the tsetse fly
- Difficult to diagnose; many patients go undiagnosed until late stage of disease
- Fatal if untreated
- Needs:
  - A safe, effective, and practical stage 2 treatment
  - A simple stage 1 treatment

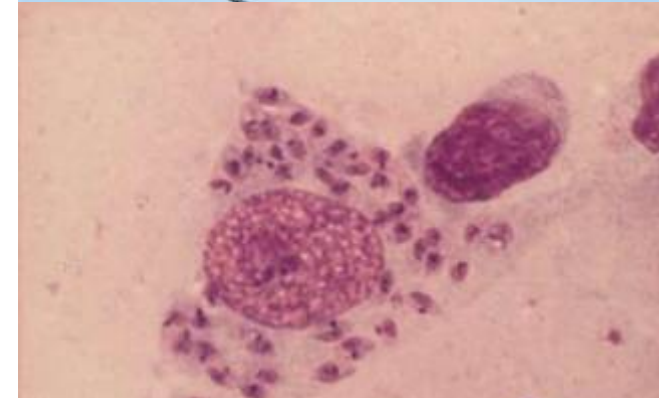






# Visceral Leishmaniasis (VL)

- 200 million at risk worldwide (in 70 countries)
- Transmitted by the sandflies
- Symptoms: prolonged fever, enlarged spleen & liver, substantial weight of loss, progressive anemia
- Fatal if untreated
- Current drugs: antimonials, Amphotericin B, AmBisome®, miltefosine, paromomycin
- Needs:
  - oral, safe, effective, low-cost and short-course treatment



# Neglected Diseases in the South-East Asia Region and India

Diseases	South East Asia	India
<b>Visceral leishmaniasis</b>	60% of all cases worldwide are in Bangladesh, India and Nepal	17,000 cases
<b>Lymphatic Filariasis</b>	66% of all cases worldwide	240 millions received preventive treatment
<b>Leprosy</b>	67% of all cases worldwide	On the way to eradication
<b>Yaws</b>	7,000 new cases each year	Eradicated
<b>Dengue</b>	190,000 cases reported in 2010	9,400 cases reported in 2010
<b>Malaria</b>	8.5% of all cases worldwide	52.8% of the cases reported in SEA
<b>Tuberculosis</b>	35% of all cases worldwide	1.2 – 2.4 million cases

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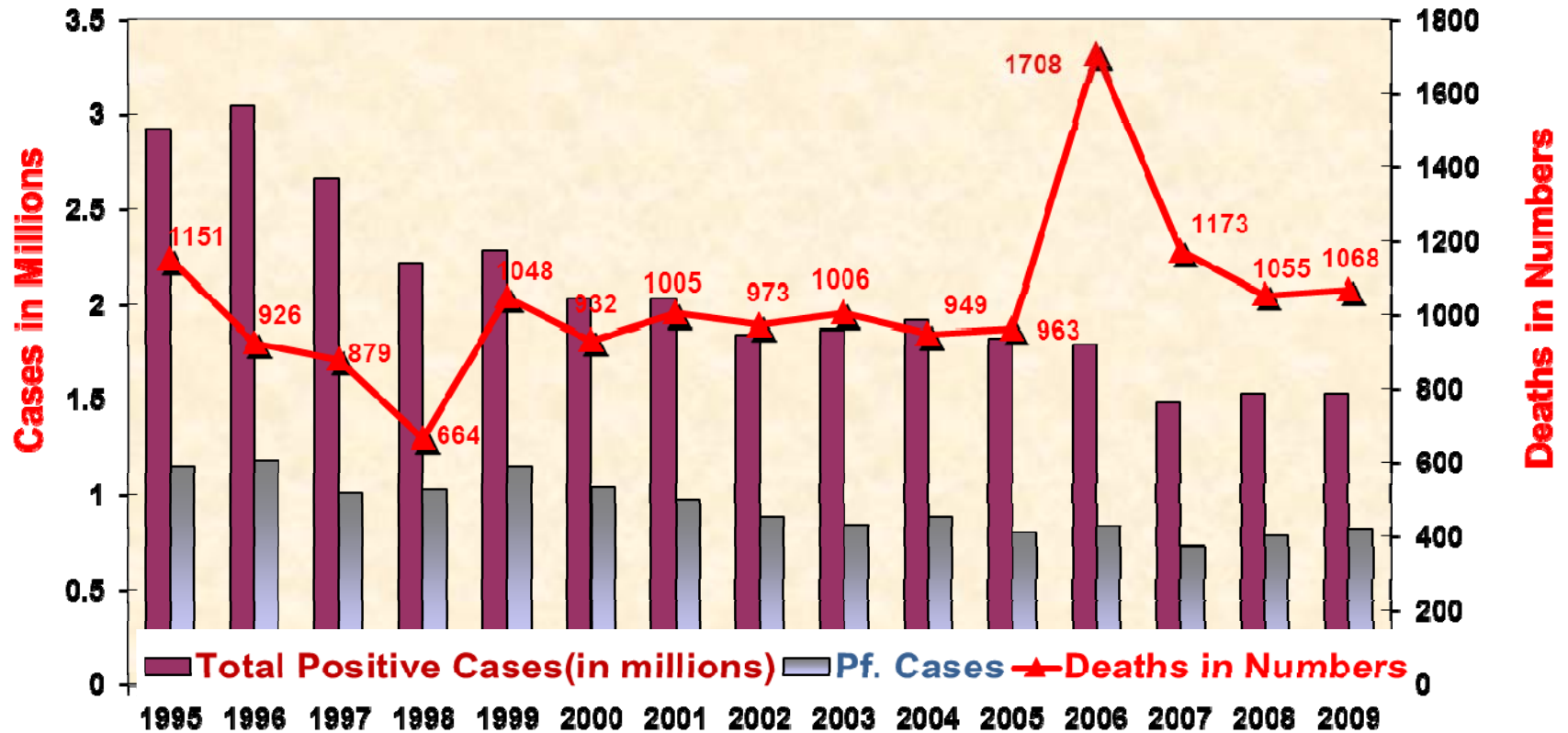
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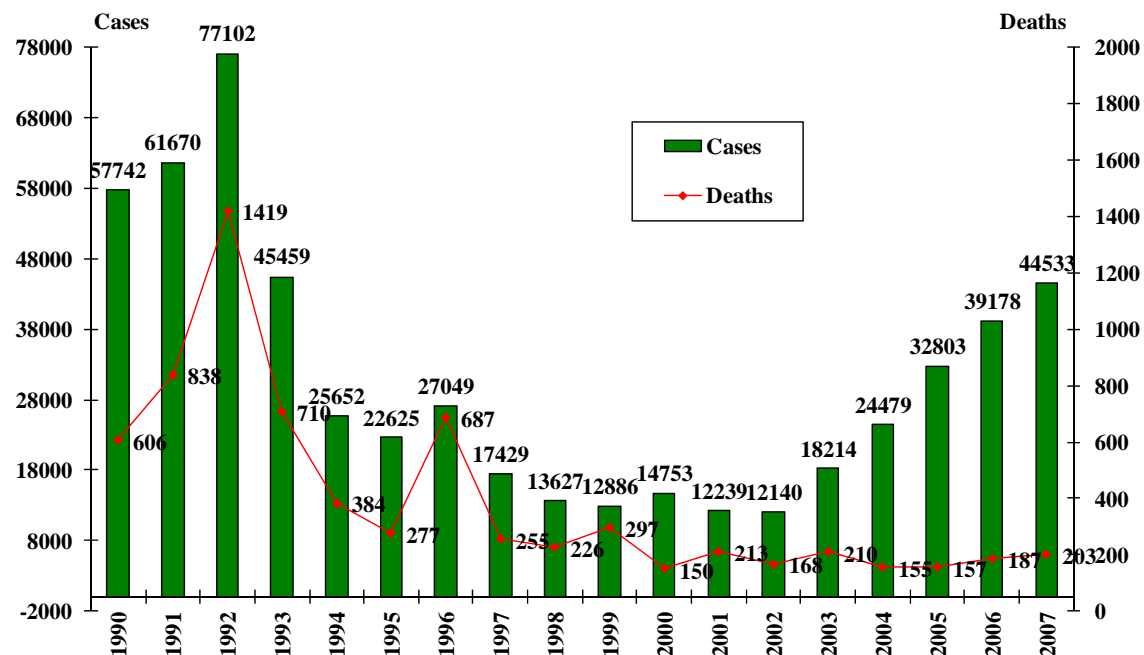


# Reported Malaria Cases & Deaths in India (1995-2009)



Source: NVBDCP

# Visceral Leishmaniasis in India



	Cases	Deaths
2006	39178	187
2007	44533	203
2008 up to July	16969	72

**Increase in cases due to better surveillance & diagnosis.  
Major inputs provided for elimination by 2010.**



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# Among the most neglected...

- Poorest of the poor
- Living in remote areas
- Socioeconomic burden on family and community
- Marginalised & voiceless patients



# Neglected Diseases: Current Treatment Limitations



Melarsoprol



Eflornithine

- Ineffective (resistance)
- Toxic
- Expensive
- Painful when delivered
- Difficult to use
- Not registered in endemic regions
- Restricted by patents

**We Need Safe, Effective, Easy-to-Use Drugs**

# Responding to the Needs of Patients Suffering from Neglected Diseases...



Malaria



Visceral Leishmaniasis (VL)



Sleeping Sickness (HAT)



Chagas Disease