

Implementing “One Health” in Brazil: Leptospirosis in Urban Slum Communities

Atlanta, May 4, 2010

Brazilian Ministry of Health
Oswaldo Cruz Foundation (Fiocruz)
Health Secretariat for Surveillance

State Secretary of Health for Bahia

Municipal Secretary of Health for
Salvador

Dept. of Epidemiological Surveillance
Zoonotic Disease Control Center

Resident Associations, Pau da Lima
Community

Weill Medical College of Cornell Univ.

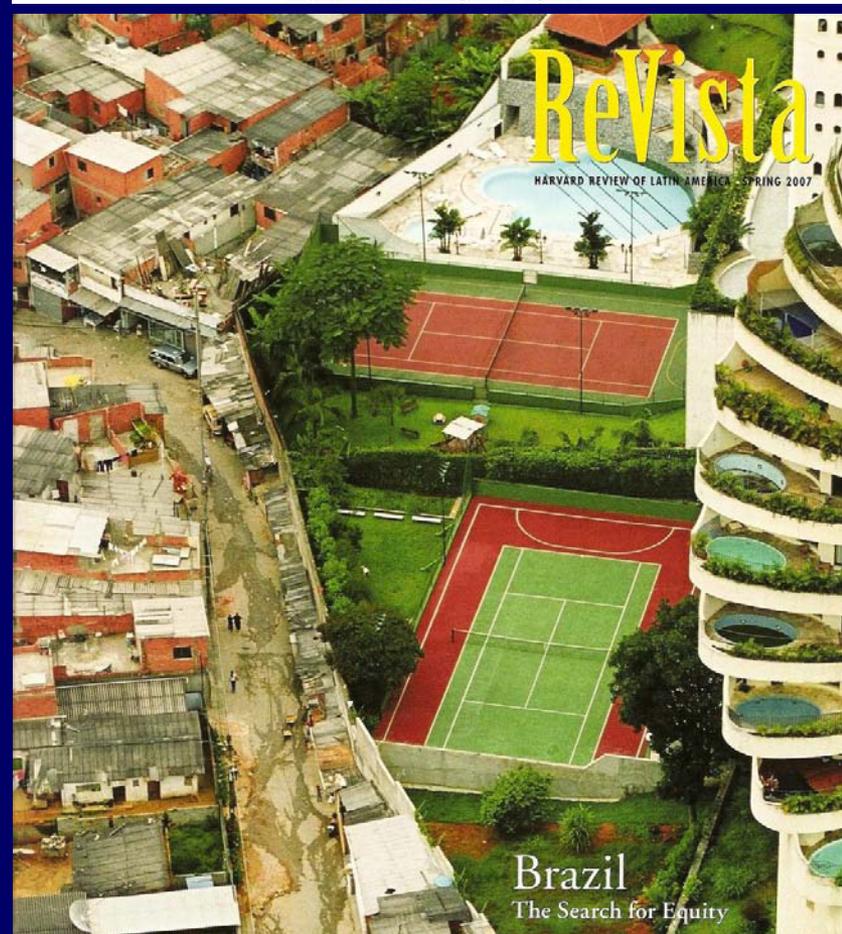


Fiocruz-Cornell Global Infectious Disease Training Program

- Research and training since 1964
 - >480 Brazilian trainees
 - >160 US students, faculty
- Program in 1996 to address diseases that emerged due to **urbanization and social inequality**
- Focus:
 - Field and translational research
 - Multidisciplinary approaches
 - Community participation
- Support from Brazilian MoH and NIH/USA



"ILHA DE DESIGUALDADE"
NORDESTE DE AMARALINA, SALVADOR, 2003

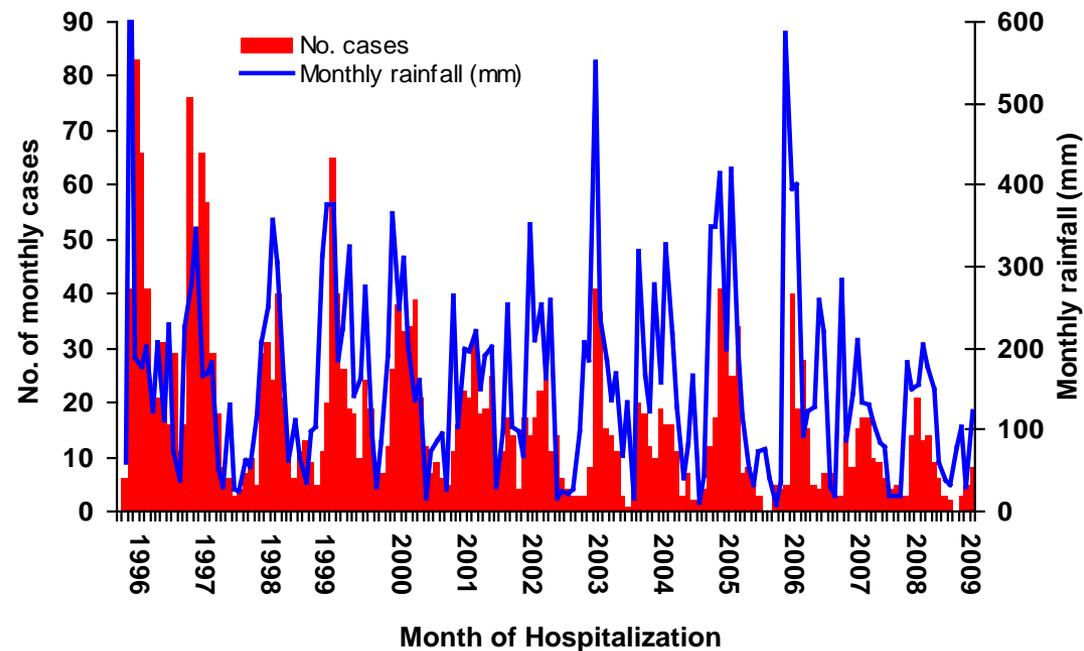


Pau da Lima Cohort Site, Salvador, Brazil



Leptospirosis in Brazil

- Spirochaetal zoonosis
- Annual epidemics
- Attacks the same slum communities each year
- Rat-borne transmission
- Case fatality rate >10%
 - Pulmonary hemorrhage
- >12,000 cases in Brazil
- Similar conditions of poverty and climate throughout the developing world.



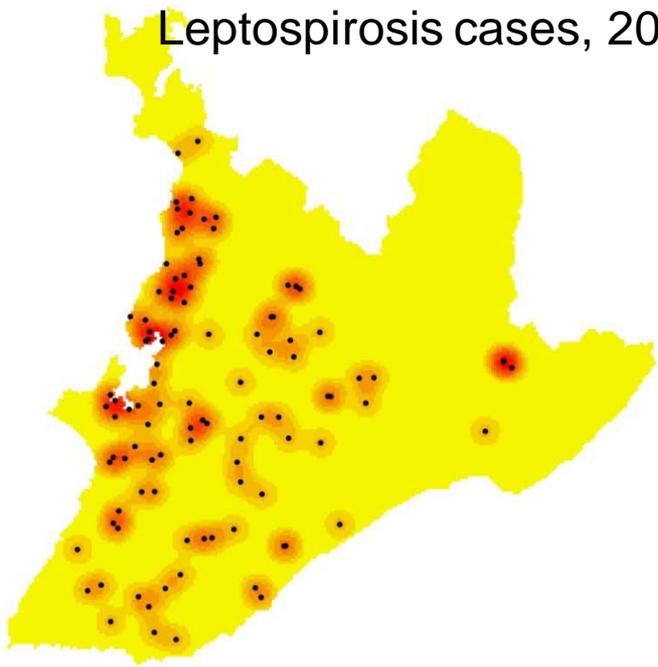
Strategies Used in Addressing Leptospirosis

- Address neglect at the policy and decision making level
 - Disease burden studies in *favela* communities
 - High-exposure research publications
- Use existing multidisciplinary/intersectorial structures
 - Zoonotic disease control centers
 - Rapid response centers
 - Oswaldo Cruz Foundation
- Include community and non-traditional partners
 - Public sewage company, refuse service, civil defense, residents associations, media
- Prioritize training:
 - FETP
 - NIH-supported training programs

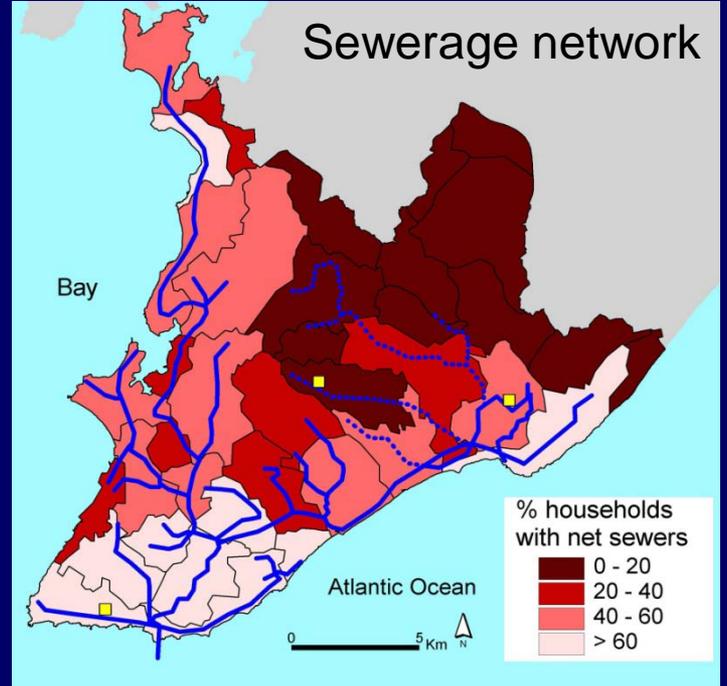
Brazilian Response to Leptospirosis: Outcomes

- Major investment in R&D initiatives to sequence genomes and develop rapid diagnostics and vaccines
- National guidelines on clinical management, surveillance, and prevention
 - Pilot implementation in five urban centers
 - Network of sites providing hands-on training
- Integrated rapid response protocols by health secretaries, civil defense and media.
- Targeted rodent control in communities with highest risk
- Large-scale sanitation projects in slum communities

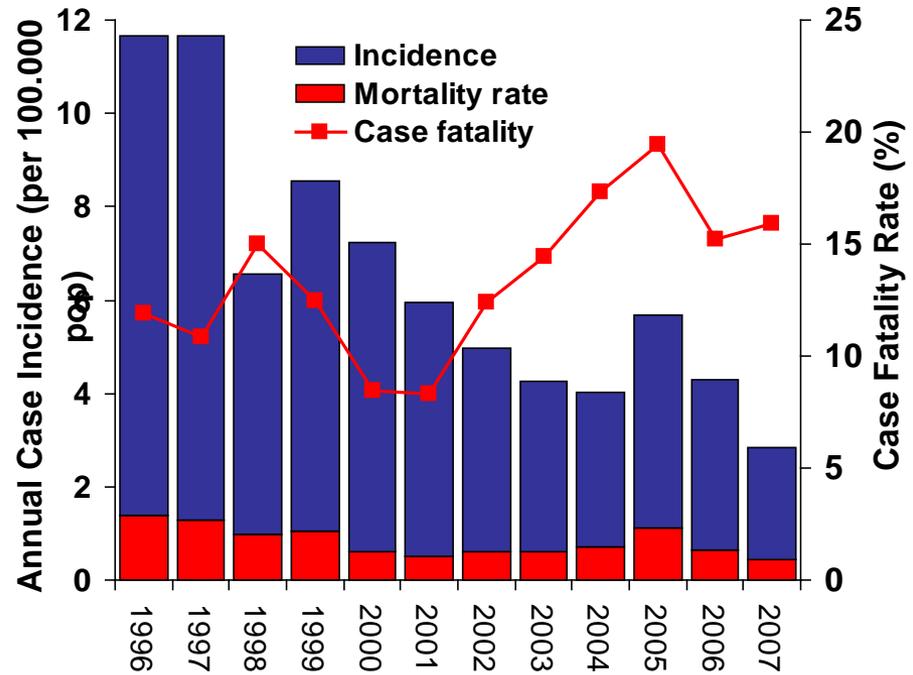
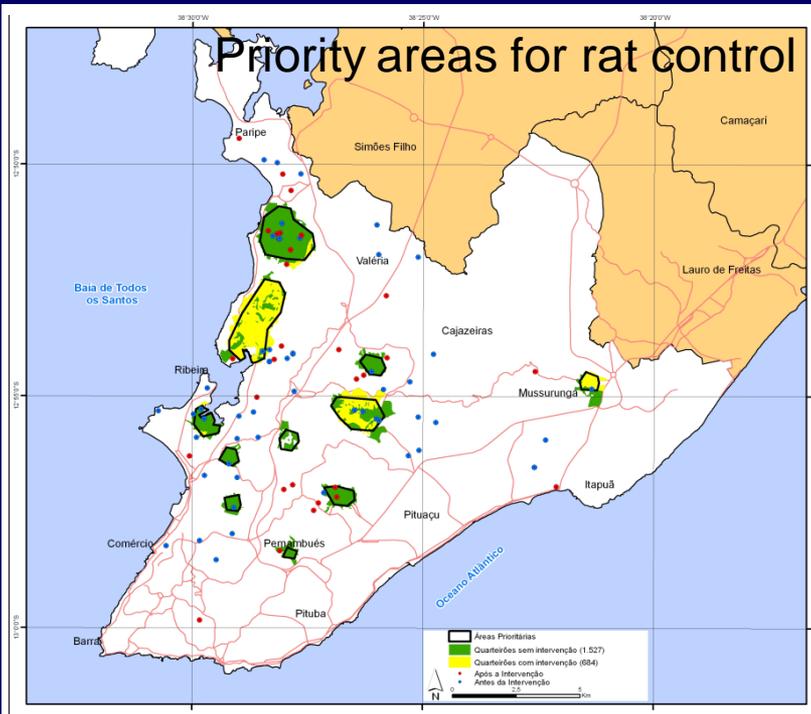
Leptospirosis cases, 2007



Sewerage network



Priority areas for rat control



One Health Approach to Leptospirosis in Brazil: Lessons Learned

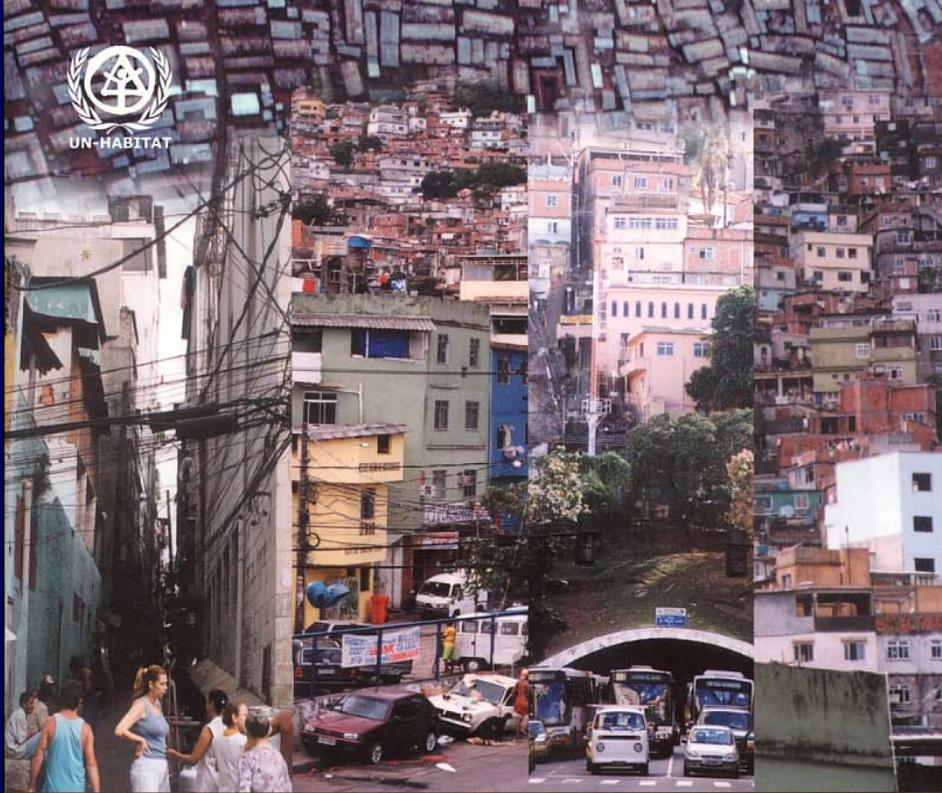
- Role of research community in raising awareness
- Training is the critical to implementation
 - Need to start at undergraduate level
 - Example of veterinary medicine in Brazil
- Simple plan and clearly-defined responsibilities for participating sectors
- Equity
 - Community involvement in decision making (SUS)
 - IADB and World Bank requirement for positive health impacts in development projects

One Health Approach to Leptospirosis in Brazil: Lessons Learned

- Role of research community in raising awareness
- Training is the critical to implementation
 - Need to start at undergraduate level
 - Example of veterinary medicine in Brazil
- Simple plan and clearly-defined responsibilities for multiple sectors
- Social Equity as a galvanizing force
 - Community involvement in decision making (SUS)
 - IADB and World Bank requirement for positive health impacts in development projects

One Health Approach to Leptospirosis in Brazil: Lessons Learned

- Role of research community in raising awareness
- Training is the critical to implementation
 - Need to start at undergraduate level
 - Example of veterinary medicine in Brazil
- Simple plan and clearly-defined responsibilities for multiple sectors
- Social Equity as a galvanizing force
 - Community involvement in decision making (SUS)
 - IADB and World Bank requirement for positive health impacts in development projects



THE CHALLENGE OF **SLUMS**

GLOBAL REPORT ON HUMAN SETTLEMENTS 2003



United Nations Human Settlements Programme

- One billion individuals, representing 32% of the world's urban population, live in slums.
- The UN Millennium Declaration pledged to achieve “significant improvement in the lives of at least 100 million slum dwellers by the year 2020.”
- The world's urban slum population will double to 2 billion in the next 25 years.