UNDERSTANDING NEEDS: CHALLENGES & OPPORTUNITIES IN CANINE RABIES MANAGEMENT

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Disclaimer: This presentation does not necessarily represent the official position of GARC, and use of any trade names are for comparison purposes only, and do not constitute endorsement by our organization.

Rabies: A Global Disease

- Fatal viral disease transmitted via animal bites
- Highest case fatality of any infectious disease
- Acute progressive encephalitis
- Immunization prevents productive infections
- More than 60% of deaths are in children
- >70 million people at risk of dying of rabies
- Great psychological trauma after exposure
- Most cases occur in Africa and Asia

Hampson et al. OIE Conference on Rabies Control. 2011.

Estimated Burden:
Comparing Zoonotic Diseases

- >50,000 human rabies deaths
- Dog rabies continues to increase in Africa & Asia

A Focus on Prevention: Dogs or Humans?

- Worldwide >90% of rabies exposures are from dogs
- Globally >99% of human rabies deaths are via dogs
- Bite wounds, stress, and trauma from dogs rabies
- Mass annual canine vaccination is effective
- Roaming infected dogs are obstacles to success
- Animal rabies prevention is cost-effective vs. culling

Dog Rabies: Dynamics of Virus Transmission and Exposures

Transmission pathways:
- 1-way
- 2-way
- Circulating

Vaccines can be used to interrupt transmission at any stage

Human Rabies

Human Rabies

Number of rabid dogs

Number of human rabies cases

Rabies in the United States: Effect of Animal Vaccination on Human Fatalities

Recent Examples of Innovative Programs for Global Rabies Prevention and Control
- **Global Alliance for Rabies Control, established 2007**
  - Registered 501(c)3 in US; registered charity in Scotland
- **World Rabies Day, launched 2007**
  - >4.6 million animals vaccinated; >150 million people educated
- **Partners for Rabies Prevention, established 2008**
  - Professional group of global stakeholders (FAO, GARC, OIE, etc.)
  - Public, private, NGOs, funding organizations, etc.
- **E-global communications**
  - Bank of educational materials (e.g., ‘blueprints’)
- **‘One Health’ rabies control pilot projects**
  - Example: Bohol Philippines, 2007–2011

Designing a Road Map for Canine Rabies Prevention, Control & Elimination

Lembo et al., 2012
An Example: Bohol, Philippines

A Partnership of the Provincial Government of Bohol, the Global Alliance for Rabies Control and the UBS Optimus Foundation

Supported by the national government and other partner organizations

47 municipalities, 1 city, 1109 villages, 1.2M people, ~100,000 dogs

Provincial Rabies Ordinance, July 2007 that created the Provincial, Municipal, Village Rabies Councils

Community-based Rabies Advocacy Campaigns

Information & education campaign materials in vernacular
Synchronized village assemblies in 1,109 barangays twice a year
1,109 copies of rabies manual “How to Make Your Village Rabies Free”

Integration of Rabies & Responsible Pet Ownership into Elementary School Curriculum

- Piloted in year 1; province-wide integration in year 2
- reaching ~182,039 pupils (16% of total pop)

Compulsory registration of dogs to establish dog ownership & traceability of biting incidents

Spay and neutering of dogs

Humane dog population management & advocacy for responsible pet ownership

Mass dog vaccination targeting ~70% coverage yearly to break the infectious cycle

Dog Rabies Management Programs
**Community-based Paralegal Training**


- Orientation and paralegal trainings for 7,763 village-based rabies watchers
- Goal to capacitate these watchers to enforce the Rabies law using local legal procedures & paralegal forms to go after violating neighbors
- Contributed to campaigns on leashing/confine ment, mandatory vaccination and dog population management

**Sustaining Community Support**

- Community counterpart funds are generated through collection of dog registration fees meant to manage the number of dogs kept in the households
- Revenue sharing scheme was adopted:
  - ~50% village, 20% municipal, 30% provincial govt. for operational costs of the program
- Total community funds generated in the first 2 years: ~USD 105,740 (equivalent of the 1 year provincial operational fund)

**SUMMARY**

- Rabies is a serious neglected global viral zoonosis
- Proper management of dogs as the reservoir saves lives
- Annual mass immunization breaks the infectious cycle
- Canine birth control helps to stabilize local populations
- Surgical methods are inadequate to resolve current needs
- New approaches can integrate into existing programs via local community involvement for sustainability

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